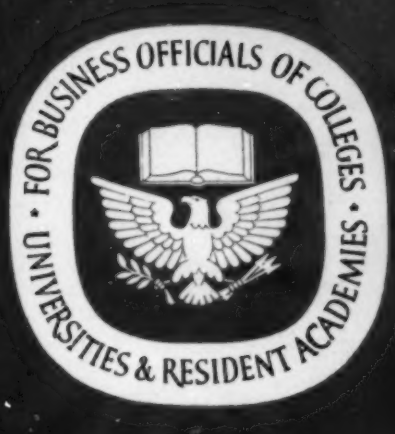

College and University Business

OCTOBER 1946: College Endowments ★ Alumni Relations ★ Administration Buildings ★ Air Conditioning ★ University Business Organization ★ Laundries ★ Views on Federal Aid

GUEST EDITORIAL

FEW PEOPLE REALIZE HOW EASY IT IS FOR ANY federal agency, or other unit of government, gradually, unobtrusively and yet surely to obtain definite control and direction over any institution by controlling its operating funds.

It is a sound principle that any use of public funds should be subject to the scrutiny and control of those charged with the careful utilization of such funds. If that is sound doctrine, it follows as the night the day that, whenever federal funds are made available to operating schools and colleges for a definite specified service, it is incumbent upon the federal government or its agencies to make sure that the funds are wisely used and the expenditure constructively made in the public interest.

Frequently this is a matter of opinion. There are many decisions included in our daily operation which another one of us would question. It is accurate to say that, in any large institution, many could alter, change or reduce the budget without, in their judgment, decreasing the effectiveness of the institution. Once I heard the vice president of the University of Michigan admit that he could extract a quarter-million dollars from his university budget without hurting Michigan's effectiveness. In response to this observation, I reminded him that I could do perhaps the same proportionate amount of cutting from our own budget but that, were I to operate on the Michigan budget and he on mine, we would undoubtedly clash violently over each other's judgment.

Who is wise enough to determine a uniform teaching load, a uniform salary scale for teaching and research, a universally satisfactory textbook, the one best or most economical method of teaching or, for that matter, the one acceptable content of a course or curriculum? What if such judgments were made by a far-off federal agent, by a general accounting office or by a unified department of national defense?

Much good will come if, out of the experience of federalized education as practiced through the War Department and the Navy Department in their wartime college training programs and as now provided through the Veterans Administration peacetime program, we fulfill our educational responsibility and develop a pattern of relationships with the federal government which will establish sound principles for compensation without restrictive regulatory limitations upon our individual objectives.

If we are not ever watchful at the present time, however, we may, through overplaying our quest for money, awaken to find ourselves dominated by the federal government, directly under a federal regulatory body, having lost our traditional freedom of judgment in determining that which is worthwhile and which shall be within our institution.

Surrendering our individual differences weakens all those things which each of us considers important, a terrific price to pay but not an impossible consequence from reliance on federal funds—an exchange for federal funds of a priceless heritage of the only freedom which makes us truly great.—R. B. STEWART.

FOR BUSINESS OFFICIALS OF COLLEGES, UNIVERSITIES & RESIDENT ACADEMIES

College and University Business

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Among the Authors

R. L. JOHNSON

ROBERT L. JOHNSON, president of Temple University, has a long background of business experience out of which he can speak authoritatively on college business administration. He was one of the original officers of Time, Inc., publishers of *Time Magazine*, and was vice president of that concern from 1922 to 1937. During 1935 he served as relief administrator of the state of Pennsylvania and was president of the Civil Service Reform League from 1936 to 1938. Dr. Johnson has been president of Temple University since 1941 and is now a member of the board of directors of a large number of nationally known corporations. . . . For many years BOARDMAN BUMP, business officer of Mount Holyoke College, has made a specialty of studying investments as they relate to educational institutions and presents his thinking on the subject in this issue. He is an active member of the Eastern Association of College and University Business Officers and has served for many years as its secretary-treasurer.

GERALD J. HOAR

Twenty-five years in the laundering business has given GERALD J. HOAR an unusual background of operating experience which he brings to his position as superintendent and manager of laundry service at the University of Notre Dame. Prior to his connection with Notre Dame in 1936, Mr. Hoar had served as field secretary of the National Association of Laundry Owners and later as superintendent of the American Institute of Laundering. He has traveled more than 50,000 miles visiting laundries in this country and Canada and has done extensive research work in colloidal chemistry. As a hobby, he expresses a preference for piano playing. . . . J. J. WENNER, assistant superintendent of buildings and grounds at the University of Cincinnati, has been unusually successful in the development of a technic for the mass cleaning of venetian blinds which he describes in this issue. . . . The proper care of sports equipment is described by E. D. MITCHELL, professor of physical education at the University of Michigan. In demand as a speaker on physical education, he is also a frequent contributor to magazines on the subject of physical equipment maintenance.

C. E. WIDMAYER

CHARLES EDWARD WIDMAYER describes Dartmouth College's renowned alumni program which has been successful in obtaining support for the institution. He is director of the Dartmouth News Service and editor of *Dartmouth Alumni Magazine*. Mr. Widmayer has been active on the American Alumni Council and during 1943-44 served as vice president of the American College Public Relations Association. . . . ERNEST PICKERING, dean of the school of applied arts at the University of Cincinnati, has been prominent in architectural circles for many years. He is a graduate of the University of Kansas and did graduate work at Harvard and Ecole des beaux-arts in Paris. He is an author, with three books to his credit.

BUSINESS ORGANIZATION OF A LARGE UNIVERSITY

Temple finds the requisite for successful administration is knowing where to delegate authority. Simplicity is the essence of the plan for operating its 10 colleges and three schools

ROBERT L. JOHNSON
President, Temple University

THAT A COLLEGE CONSISTS OF A BOY sitting on one end of a log and a great teacher sitting on the other end is one of the pleasant fictions of the American folklore. Perhaps it approximated truth at one time. If it were true today, the average life span of college presidents would probably be longer.

Here at Temple University we have a fairly big log. Approximately 12,000 students are on one end of it and almost a thousand teachers on the other. But working outside of the academic clearing, usually unseen and unsung, hundreds of men and women toil unceasingly ministering to the teacher, the boy and the log. They include administrative officers, custodians and maintenance men, secretarial staffs and technical and professional experts in many fields. Without them, neither the boy nor the teacher could be there. In fact, there would not even be a log.

That is why business organization is an important administrative problem. After all, an educational institution is more than a faculty and a building. It is an intricate mechanism that buys, sells, borrows, builds, leases, invests, all the while it is disseminating and adding to knowledge. Wheels turn within wheels and whether or not they mesh precisely is a matter of organization.

An administrative organization can achieve this coordination and yet remain relatively simple. In fact, it may function better by reason of its simplicity. Temple University consists of 10 colleges and three schools, which at the present time are in five widely separated areas in Philadelphia.

The university maintains approximately 60 buildings which have a value of about $4,500,000, exclusive of equipment. An institution with a physical base of this extent suggests an elaborate administrative superstructure. We have avoided this at Temple University by careful division of labor, precise definition of function and clear channeling of responsibility to certain key officials.

Most problems of the university are sifted to the president primarily through the hands of a few topflight executives.

One is charged with responsibility for the educational program. He is the provost. Current problems of instruction and academic administration in all the schools are his province. His work bears on the business affairs of the university by virtue of the fact that he assists and advises the president in the preparation of the academic budgets.

Another is responsible for the university's day-to-day business operations and has primary significance in any discussion of business organization. As treasurer of the university corporation, he is answerable to the president for the work also of the assistant treasurer, comptroller, superintendent of buildings and grounds, purchasing agent, director of the bookstore and the director of the dining service.

A third post, just created, has to do with both short range (three year) and long range (five year) planning. The new official, known as the chairman of our Temple University Planning Commission, will study developing trends and estimate tomorrow's needs. This work is important to the university from the business standpoint because it will enable us to take the long view. We believe this will often save us from the economic waste that is involved in making false starts and too many last minute decisions. In the course of our growth, we do not wish to underwrite policies of dubious or short term value.

A fourth key executive comes to the university from the armed services and will work closely with the president on a number of current administrative problems. His assignments may concern business affairs but they have a differing and variegated character. Community and civic projects may be started, for instance, which are important to the university and the area that it serves, yet the president personally cannot always see them to a conclusion. It is at this point that this fourth administrative officer will take over.

A brief description of the functions of the officials responsible for different phases of management will help to make clear the lines of authority.

The treasurer is custodian of deeds and records of title to real estate as well as stocks, bonds, mortgages and other securities. He collects income received from operation of all departments of the university and from the administration of its investments. Bank deposits are under his supervision. He meets the university pay roll and signs checks in discharge of other debts on receipt of vouchers from the comptroller.

Administering an insurance program to cover university risks also is the treasurer's responsibility. He negotiates purchase and sale of securities and properties on orders of the board of trustees or its executive committee.

As the recipient of a biennial grant from the commonwealth of Pennsylvania, Temple University has a legislative representative who keeps state officials informed about current progress. The treasurer presently serves in this capacity.

The comptroller, the university's accounting officer, approves all vouchers before they are submitted to the treasurer. He certifies that the expenditure is within the department's appropria-

tion and that it has been authorized by the proper officer of the department. Periodic reports on the financial operations go from the comptroller to the president.

The department of buildings and grounds looks after property and equipment needs and is responsible for services needed for their use and functioning. The superintendent has two assistants: one who is charged with maintenance of properties and another who is concerned with operations.

MAINTENANCE ORGANIZATION

In the maintenance division is the chief engineer whose staff provides heat for buildings on the undergraduate campus. The department of buildings and grounds is responsible for distribution of all utilities in the college properties. Plumbers, painters, carpenters, electricians and locksmiths are employes in the maintenance division and work under the direction of the shop foreman. They work on both building repair and remodeling unless the task is large enough to make outside contracting advisable. A furniture pool, enabling equipment replacements to be made promptly, is also kept in order by the maintenance division.

The operations division of the department supervises the work of janitors, elevator operators, landscape gardeners, maids in student residences and watchmen who provide police and fire protection.

The many miscellaneous duties of the department include operating the university's telephone switchboard, maintaining messenger service throughout the several units of the university, taking charge of decorations and setups needed for special occasions on the campus and providing transportation for children attending the Country Day School operated in conjunction with the university's teachers college.

This department employs 135 men and women. Its own chief clerk supervises pay rolls, keeps job costs and does other accounting.

The purchasing agent and his assistants obtain quotations for supplies and equipment, execute purchase order contracts, interview sales representatives, advise with faculty members and administrative officers about prospective purchases and maintain stock in the university's general stores. The purchasing agent also approves the terms of sale of excess materials.

The director of the bookstore conducts this business in accordance with approved standards of merchandising. Books, of course, are only one commodity in his stock. Stationery, athletic equipment, study room furnishings, toiletries, tobacco and novelties make this a kind of general store for the university community. The manager is responsible for direction of the sales force, keeping up his inventory, displaying and advertising his goods and bookkeeping.

The university dining service conducts the business of a cafeteria, a grill and a faculty dining room. It also does the catering for parties and special dinners arranged by university organizations. The cafeteria serves from 2000 to 2500 persons daily.

Major responsibilities for the organization are planning menus, buying

supplies, preparing and serving food and caring for equipment. In charge of all this is the director of the dining service who is aided by an assistant director, two dietitians and a grill manager. Thirty-four other employes are listed on the dining service pay roll.

Executives in the financial and service departments whose duties are outlined above are primary cogs in Temple University's business machine. Each reports to the treasurer of the university corporation, who serves somewhat in the capacity of a business manager; he, in turn, answers to the president.

As one who served in an executive position in the publishing business before entering the educational field, I find that sound procedures for a university are no different from the principles of sound management that dominate other enterprises. These call, first of all, for the selection of reliable individuals for positions of responsibility.

Our deans, for instance, have the widest grants of authority, a circumstance enabling their respective schools to function with almost complete autonomy. These officers make periodic reports to the provost and the president, yet they work unfettered in their own domains.

PRESIDENT'S RESPONSIBILITIES

The business of a president is that of planning, directing and coordinating. At no time must he permit himself to be mired down with detail. If I found my desk becoming cluttered, I would know that I was not functioning efficiently.

Another requisite for successful administration is knowing where to delegate the authority. When each new problem arises, the president must be able to assess the ability of his aides so well that he knows at once the man in his organization who is best qualified to cope with the matter at hand. This man should be given his assignment with the understanding that he has freedom and authority to find the solution in his own way, thus enabling the president to turn his attention to other affairs.

A conscientious executive, confident of his own powers, may easily succumb to the temptation to give himself to every task and see it through personally to conclusion. Such a course inevitably limits his own horizon and stunts the capabilities of his associates who would also have contributions of value to make to the organization. It also betrays an egotism incompatible with wise leadership.

A president must keep himself fully informed, of course, about both the routine procedures and the special problems that occupy his subordinates. His responsibility to his trustees and his administrative associates demands that he either shall have the answer, or know where he can find it, for every question about the university's business that can be propounded to him.

In the foregoing paragraphs I have not attempted to discuss the varied problems and responsibilities of the chief executive of a university; I leave that to my colleagues of longer experience and greater fame. I have merely outlined some of the principles of administration I have tried to follow at Temple University. They are essential equipment, I believe, for the successful executive anywhere.

Laundry SERVES BOTH SCHOOL AND STUDENTS

GERALD J. HOAR
Manager, Laundry and Dry Cleaning Departments
University of Notre Dame

PICTURE, IF YOU CAN, AN INSTITUtional laundry that must handle more than 90,000 shirts, socks, handkerchiefs, undergarments and the other personal items of a college student each week.

It sounds almost impossible! Yet, this is the task which the St. Michael's Laundry on the campus of the University of Notre Dame masters every week of the normal school year.

This staggering figure, moreover, is in addition to the weekly washing of thousands of other nonpersonal items, such as tablecloths for the University of Notre Dame dining halls, which seat more than 3000 students, huge quantities of athletic equipment, sheets and pillow cases from students' beds and many other items from the largest boarding school in the world.

Personal laundry service to the individual student at Notre Dame has been worked out satisfactorily after some years of trial and experiment. In its present form it seems to be highly acceptable from the point of view of both student and university.

The fee for laundry is incorporated in the overall semester expense and a control is established that is most convenient for student, parent and school. This arrangement is also desirable because of the reasonable rate offered the student under this plan. The quick sure service given him is a real advantage, an angle much appreciated by returning servicemen who know how difficult it has been to get laundry service anywhere.

For the last four years Notre Dame has been from 80 to 90 per cent military with large units of midshipmen (V-7), N.R.O.T.C., marines and V-12, all getting five day service. Everything the navy man wears is washable, except his shoes. In connection with this service to the navy, every four months approximately 1600 men would leave the station, either commissioned or transferred, and it was necessary to close out these 1600 accounts and add 1600 new ones, not to mention the tremendous marking job of 79 new pieces of clothing for each new trainee.

During the last four years we laundered and dry cleaned several million pieces of general issue clothing for the navy department, from all wool white blankets to black silk scarfs. The uniforms for all four branches of service mentioned above were different, thus

adding new problems for processing and handling to a laundry that had never seen a navy jumper before. Three thousand all wool white and blue officers' blankets in one day presented a real nutcracker.

Much could be written about these service departments at Notre Dame during four years at war, but let it be sufficient to say that the normal routine of the laundry and dry cleaning departments was somewhat changed from status quo to a stepped up tempo with approximately 33 per cent increase in volume of work and a decreased personnel. Capt. J. Richard Barry, commanding officer of all the military units at Notre Dame, and his staff of officers were most cooperative, a condition that helped us tremendously over difficult situations. But now back to civilian laundry service.

VOLUME OF WORK

There are a little more than 3500 young men using our laundry department, and this volume of work makes up more than half of the total amount of work done. The other part, mostly linen supply and bedding, would keep a fair sized laundry busy.

How do we handle this tremendous volume of work, what equipment is necessary, what methods have proved most successful?

Let's start with the student's personal laundry, which averages 26 pieces per bundle, and take it on through its entire cycle.

First the student is required to purchase a laundry bag, 18 inches wide and 24 inches deep, having a draw string. The student must close and tie the bag opening securely before he puts it down the laundry chute in his residence hall.

This bag, which we make a standard size and color (usually unbleached muslin), is marked with regular marking ink by machine with the student's first name, middle initial and last name, the name of his hall, his room number and his laundry number. The laundry number is his real identification. It is assigned the student when he enters school and he retains it until he is graduated or leaves school permanently.

The foregoing identifications are placed on both sides of the bag as a step toward efficiency in the listing, marking and checking departments. The position of this marking on the bag should be at the most convenient height for markers and assorters. This is important in point of time for the assembling department.

The student is required to have his laundry down the chute before a certain hour and on a certain day designated for the laundry pickup in his hall. This day and time remain the same for the entire scholastic year. Each boy is allowed to send in sufficient clothing to take care of his normal needs for a week. The proper amount can be determined by the institution itself. Notre Dame boys must be clean and neat at all times; otherwise penalties are imposed. Students are required to send in their own laundry in their own bags, thus avoiding any mixups from that source.

The student's clothing, having been put in his own laundry bag and sent down the chute, is picked up by one of our laundry trucks. These pickups are distributed over the week, hall by hall, so that the amount of work is the same each day of the week thereby equalizing the load or demand on the plant and maintaining a constant flow of work and regular service to the individual. In other words, the student knows within two or three hours and on what day his laundry will be ready for him.

WEEKLY SCHEDULE

All of the personal laundry brought in from the halls is out and delivered to our central distributing office on the campus within the week. We find that starting the laundry pickups on Wednesday, the middle of the week, eliminates that week end rush which, in our case during the fall season, is impossible to handle satisfactorily.

Trucks bring the soiled laundry to the receiving room, hall by hall, and it is kept in that order through complete processing and checking out. The bundles are untied one by one and taken to the breaking table (there is not more than one bundle on the table at a time) where each piece is counted and listed. The form used on this list is printed to fit our particular needs and is made in triplicate. After listing, the bundle with the bag is passed on to the markers where each piece is marked permanently with the student's laundry number. The marker also sorts this bundle, dividing it into its several classifications for washing.

Usually 105 student bundles constitute one lot. We have found that our washroom can handle this amount most conveniently. Separations of fugitives, colored and white, silks, woolens and synthetic fabrics are made by our head washman who is familiar with all kinds of washable clothing.

EQUIPMENT

We have equipped our washroom with five 42 by 84 stainless metal compartment washers, three 42 by 36 stainless metal washers, and one pony washer for silks and woolens. We have the compartment type of washer because most of our washing is done by the bulk method.

Our methods, processes and formulas have been worked out with conservation of fabrics, whiteness, color retention and washing time considered in the order mentioned. The best scientific and technical formulas are used because we feel that if we are wrong in our washing (which is the fundamental and basic operation of a laundry) we cannot be right through the rest of the processing.

We have one 28 inch and three 48 inch extractors, which are adequate for our present output. There are one small and two large tumblers, two handkerchief ironers, one complete American system shirt finishing unit, six sets of garment presses, two complete sets of sock forms, one collar press for starched collars, four sock darning machines and one compressor for operating all air controlled presses.

We have found that the full identification system is best for our student laundry because once the article is marked with proper identification this permanent mark is there through the lifetime of the articles which go to make up this strictly bachelor's bundle. In the opening fall semester from 65,000 to 80,000 pieces of students' laundry are marked.

From the time a bundle is broken, counted, listed, marked, separated, classified or sorted, loaded, washed, pulled, extracted, ironed or dried, folded, assorted, checked and wrapped ready for delivery to our central distributing office, approximately five hours' time is consumed. Of course, after the first lot is completed, one of these lots is completed every hour and thirty minutes until all lots, numbering about 30 for the week, are checked out.

On arriving at our central distributing office, the bundles are arranged in numerical order so that a student's laundry can be quickly found when he calls for it. Before he can claim his bundle, however, he must produce his identification card stamped with the

Top left: Dry cleaning unit where religious vestments, students' apparel are renovated by latest of modern equipment. Top right: The two girls stretch, dry and fold 18,000 pairs of students' socks every week. The giant stocking form is used in drying 1100 Fighting Irish football stockings weekly during the fall schedule. Above left: Bundles are opened one at a time. Above right: Production line with shirt ironing equipment.

laundry number issued him for the current semester. This card has numbers on it indicating each week of the semester and one number is punched out as the student receives his laundry for that week. This serves as a real check on each student at all times.

For the linen supply department, there are some 4400 beds on the campus in the 14 resident student halls, five community halls and two infirmaries. It is simple arithmetic to figure the number of sheets and pillow slips required to maintain a clean linen service. Then there is all the laundry and linen service from the student dining halls and cafeteria where some 12,000 meals a day are served. About 5000 pieces of laundry a day are from this one department.

The Rockne Memorial Field House, the Athletic Association (all branches of sport) and the wool blankets for the number of beds on the campus bring the numerical laundry requirements for this service department into astronomical figures.

The number of personnel required to produce this service efficiently is between 85 and 90. Our laundry department has run continuously since 1941 owing to the heavy demands made upon it by the wartime accelerated scholastic program. This fall we are back on our normal peacetime schedule of two regular semesters plus an eight week semester school course.

Our experience indicates that a laundry having the different services required for the student body and for the school itself can be successfully operated by an institution and can provide a most convenient service for the individual.

A NEW PHILOSOPHY ON *Endowments* FOR SMALL COLLEGES

BOARDMAN BUMP
Business Officer
Mount Holyoke College

IN THE SO-CALLED SMALLER INSTITUTIONS whose permanent funds range up to $15,000,000 and whose undergraduate student bodies do not exceed 2500 is the group of cultural centers which are in essence the core of liberal arts or general education in America.

If one can comprehend the wealth of opportunity which these colleges hold for the youth of the future, one begins to understand the potential values attached to their endowments.

The capital which society has stored away for the benefit of the small colleges is not so much a matter of millions of dollars as it is a gift of future service the worth of which is limited only by the worth of the educated man.

Endowment funds are created by people, human beings who choose to transfer their accumulations of wealth to an organization pledged to use the income derived from that wealth or capital for general or specific educational purposes. The giving process is concerned with the spiritual as well as the material. Endowments are something more than mere securities, the medium through which the purposes of endowments are carried out.

When an endowment fund is established by a donor, it is necessary, though regrettable from a philosophic point of view, to make a permanent bookkeeping record of the gift in terms of dollars. In accounting terminology, a permanent indebtedness to the giver is acknowledged as it should be. The dollar value of endowment ceases to have a meaning other than historical or statistical, however, almost from the very date on which it was recorded because dollars are exchanged for investments and neither dollar values nor investment values remain constant thereafter.

Endowments never terminate, hence a final accounting related to donated values is not the primary concern of endowment managers. By way of contrast, individual trusts, insurance company contracts and bank deposits create funds which must always be invested with the chief emphasis placed on anticipating the maturity of contractual principal obligations as opposed to maintaining high income perpetually.

Abstracted from a talk given before the second annual Boston Forum on Open-End Investment Companies at New England Mutual Hall, Boston.

EDUCATIONAL UTILITY

An endowment can be likened to an old apple orchard planted on the campus many years ago for the purpose of bearing fruit and enhancing the beauty of the campus for the oncoming generations of students. The usefulness of the orchard, in the present time, is obviously to be measured by the number and quality of the apples which it yields. Similarly, the value of endowment, as appraised by those who think in terms of use, is measured by the quality and quantity of the goods and services which the endowment income can buy—the educational utility of endowment.

The rate of return which 45 institutions realized on the principal of their endowment funds from 1926 through 1943 will illustrate the point. When these figures are related to wholesale commodity prices, they show that if the index of educational utility of an endowment fund was 100 in 1926, then it was 152.8 in 1932 and 80.5 in 1943. In other words, in the depression endowments were, in terms of materials purchased, more than 50 per cent more useful to a college than in 1926, whereas the market value of the investments may have been only 50 per cent of the endowment value. By contrast, in 1943 when market values quite generally exceeded book values and, incidentally, investment committees felt much better, the purchasing utility of an endowment was reduced to only 80 per cent of the 1926 worth. In other words, from 1932 to 1943 the utility of endowments was reduced by 47 per cent.

Endowment utility may be measured also in terms of services or salaries as well as materials. A comparison of the average annual earnings of full time employes providing educational services with the rate of return on endowment shows that in 1943, before the full impact of wartime wage and salary increases was reflected in the colleges, there were a 25 per cent decrease in the utility value of endowment in the procurement of services since 1929, the first year for which such figures are available, and a 27 per cent decrease since 1932.

The conclusions to be drawn from the apple orchard and statistical indexes are clear. Two variables govern the utility value of an endowment: the number of dollars of income received as income and the purchasing power of the dollar. The number of dollars received as income is governed in part by the activities of endowment managers. The purchasing power of the dollar fluctuates beyond the control of any small group, except to the extent that good business management within a college can stretch the dollar to do a little extra work here or there for the school.

INCOME vs. PRINCIPAL

When institutional investors are asked to give expression to their philosophies of endowment management, their replies will always reflect the differing points of view and degrees of emphasis put upon safety of principal and rate of income. It is even reasonable to say that there are fundamentally two philosophies—with many shaded ones between—which influence the investment practices of the small colleges.

According to one philosophy the chief concern of endowment fund investors is safety of principal. According to the other philosophy a much greater significance is attached to the institutional needs for income.

In an informal survey of opinion, referred to previously, I invited comment on the question: Under what conditions or circumstances have your investment policies been influenced by

the income needs, educational or physical, of your institution?

This question is not an easy one to answer. For example, our present investment policies differ from those which we pursued in the middle of the depression because market and general economic conditions have changed, interest rates have dropped, the supply of good bonds and preferred stocks has shrunk and inflation, rather than deflation, is one of our chief fears. Moreover, our college income needs have changed with the value of the dollar and with the number of student fee dollars received by our various colleges. In short, our philosophies change with time and events and with people.

These observations were confirmed in the replies which I received to my inquiry. One interesting conclusion reached was that the smaller the college the greater the emphasis on income and the greater the apparent need for income. At least one college frankly admitted that in 1933 it was forced into a speculative investment policy. Today that college has recouped its losses by skillful handling of investments and it has adopted a more conservative investment attitude. The larger colleges show less inclination to give weight to income needs and some say that they operate independently of the institutional requirements for income.

An ultraconservative investment policy, which for any length of time holds a fund in nonfluctuating securities at a sacrifice of income, is, in its effect upon educational programs, not unlike the policy of going out of securities into cash at times when the market is expected to drop. There may be periods when prudent and wise investors can anticipate market movements so that funds can be shifted in and out of the market with resulting capital appreciation. Such a policy, if successful, would be justified, perhaps, by the expectation of ultimately increasing the income producing capacity of the fund.

The consequent occasional reduction of current income, however, constitutes a sacrifice which might be most difficult to evaluate in terms of continuity of educational services. Although I believe that investment policies which curb income substantially or for any appreciable length of time are educationally and philosophically unjustifiable, I would not apply the conclusion to similar policies adopted for such short periods that income is not sacrificed to any considerable degree. The basis of evaluating investment philosophies should always be income—the dollar medium for procurement of educational services.

Income reserves, set up as an accounting device, can be employed to the advantage of both the college and its investment managers. To illustrate, there is the process whereby a sum is allocated to the college each year out of income from the funds making up the security portfolio. If the amount earned by the portfolio is, for example, 4.25 per cent and 4 per cent is allocated to the college, the 0.25 per cent is held as an income reserve. By this method it is possible to plan educational programs and expenditures not on a day-to-day or month-to-month basis but on at least a year-to-year schedule.

After the first small sacrifices have been made in order to create a modest reserve, the advantages of stabilization are attainable without the continuous withholding of additional income year by year. In the event of unexpected happenings, the reserve balance is always available for use as a cushion between the investment markets and the educational activities of the college.

The establishment of income stabilization reserves is not only good business practice but also good investment theory. There are some occasions when income is received on securities whose ultimate principal value might prove to be less than today's. In answer to the objection that the holding of such a security is not justifiable, how is one always to know that every dollar of income is actually income and does not contain a small fraction of a future principal loss which should be offset by a charge against income? Obviously, one does not know until some years after, when the income has already been spent.

A simple way of counterbalancing the unforeseen occasional shrinkage in a part of the portfolio is to hold a small percentage of low-yielding growth stocks or good bonds purchased at substantial discount. By this means, the inevitable consequence of overexposure of principal to risk can be offset.

Because interest rates have drifted downward in recent years, there has been an ever increasing search for securities which will yield a return higher than that currently obtainable on securities of the character heretofore held. This has probably been accompanied by an increase in the element of risk and consequently the technic of reserving income today appears to have added merit.

For a Basic Philosophy

Begin to develop your philosophy of endowment management with the college itself.

Give continuous maximum income the first call upon your endowments and depart with judicious caution from veneration of integrity of principal in terms of dollars and book values.

Carry on in search of diversified intrinsic values regardless of the particular name which these securities bear and with the aid of the best investment committees at your service; allow yourself to be influenced by change in the application of these principles.

BOOK VALUES, PRINCIPAL PRESERVATION

When asked the question "Under what conditions and circumstances have your investment policies been influenced by the relationship of market to endowment book values?" most endowment managers today have indicated that they do not attach much importance to book values. This fairly general opinion is not shared, however, by those who think of book value as synonymous with principal value, and who regard preservation of book value at all times and at any cost in terms of income as a "must" requirement. Nor do all trustees feel easy in their minds when general con-

ditions, though beyond their control, so depress market values that endowment funds are dragged "under water" to the extent which they were in 1933, despite the knowledge that income is reasonably secure and educationally productive.

The converse conditions obtain today, and it is not surprising that many college treasurers are pointing with pride to the overall market appreciation which holds for most of their endowments, even though their real income in terms of purchasing power is falling away as market values rise. It seems evident to me, though not frankly admitted by everyone, that book values figure more importantly in endowment investment philosophies than they should and, for that reason, we might allow ourselves to reflect upon this question further and not be too hasty in concluding either that book values are useless statistics or that they are basic to our philosophy.

That book values possess a limited meaning for a historical review of individual security transactions or for measurement of the performance of the fund in relation to the total market is not a point of argument. The recorded cost of a security furnishes us with a hitching post value when it appears on the investment agenda. Likewise it is interesting, if not too significant, for committees to have the information that the market value of all investments is approaching or receding from their aggregate costs plus or minus any book profit or loss accumulated over the years. From here on, consideration of book values becomes a hindrance rather than a help to the investment thinking of individuals and committees. As the record of judgments rendered under circumstances which no longer prevail and are long since forgotten, book values obviously carry our minds backward and not forward.

It is inescapable, perhaps unfortunate, that the prices at which individual securities are acquired become recorded facts. As market values change, there they are—indicating either a profit or a loss. If a substantial profit is shown, what is more tempting than to sell for the sake of the record? Any student likes to have a good report card to take home to the folks! If a substantial loss is indicated, however, it takes courage to sell a security which should no longer be held. To some investors, book profit is considered good *prima facie* evidence that appreciation has run its course and that capital gains should be taken. One wonders how well this point of view would work in a period of inflation.

INDIVIDUAL AND COMMITTEE PHILOSOPHIES

In practice among our small colleges, an endowment philosophy may represent the thought of one man or the collective thought of a group of men. The committee philosophy is normally that which governs, even though the philosophies of one or two men on that committee predominate. I refer to philosophies, or policies, as the background thought against which individual investment decisions are made.

A committee philosophy, unlike that of one individual, is a combination of thought, formulated by a number of different minds which meet in a congenial and democratic symposium. Individuals' philosophies change with the passage of time and events; a committee's philosophy likewise changes for the same reasons and also because of the changing membership of the committee. Furthermore, the influence of one committee's philosophy may be carried forward by momentum for many years.

It is a characteristic quality of committee philosophies that they are not static over a period of time. In fact, they may sometimes even appear to be volatile, inconsistent or irrational, but this is what we should expect in a complicated and changing society. Human and personality factors play an influential rôle in the development of committee philosophies. Investment committees sometimes need to be reminded of the educational purposes of endowment. For this reason the administrative officials of a small college should recognize and utilize their opportunity to contribute in the shaping of their institution's endowment philosophy.

SEARCH FOR VALUES

The ultimate expression given to investment philosophies normally occurs when specific securities are considered for sale or purchase. As it often happens, committees make a conscientious effort at intervals to discuss their philosophies apart from the attention they give to securities, but how frequently it happens that almost at the beginning of a meeting the discussion will turn to this stock or that bond. Evidently a sufficiently "aged" committee wants to get down to earth and to dig in the investment soil for real values.

In recent years real values have not always been recognizable by the name and reputation of the security. Issues of railroads recently in reorganization are an example. Conventional classifications of stocks and bonds mean less than they did 25 years ago when a 5 per cent utility bond was a safe investment.

Thus, we should try to escape the danger of allowing conventional words and phrases and conventional habits of thought to hold us to outmoded philosophies. Now more than ever before we need to go beyond familiar labels, to discover real values wherever they can be found, whether in bonds, preferred stocks, common stocks, mortgages, real estate or in other forms of investment.

There is only one difference between collecting security values for an endowment fund and selecting jewels, and that is the basic element of income. Only in the case of the radioactive minerals can one find a parallel in nature. Income, the price paid for use of capital, is the creation of man not nature. Because the capitalistic system slowly changes and cannot be relied upon always to perform according to a set pattern, there is plenty of room for the display of good judgment, sagacity and luck in investing funds. Nevertheless, a clear statement of objectives is desirable. As a brief definition which might express a basic philosophy of endowment fund management, I would offer the following:

"To produce continuous maximum income, endowment funds should be invested and reinvested in diversified intrinsic values."

This statement does not specifically refer to security labels, to market values or to book values. It puts the first emphasis on maximum income where it belongs. If that income is continuous, permanence of principal is implied but the basis for judgment is to be found in its capacity to produce income. An endowment need never be liquidated; hence, market values attached to principal can be rated as of secondary importance. Diversification can be accomplished by whatever methods serve to distribute risks. Lacking intrinsic worth, no security can be expected to produce income continuously. It is our objective to invest and reinvest our endowments

in those intrinsic values which produce maximum income.

With acceptance of the philosophy of endowment invested to produce continuous maximum income, the corollary that principal values are not so important flows naturally from it. De-emphasis of principal has the by-product advantage of disengaging investors from their fear to take a loss. If one subscribes to buying intrinsic values, losses will sometimes result but the ultimate gains will be greater. Fear to take a loss and fear of outside criticism, like all other fears, live only in darkness. For this reason, among others, a clearly conceived, clearly defined and faithfully executed philosophy of endowment investment is needed in many of our small colleges today.

PORTFOLIO PERCENTAGES

To my mind, the percentages of the various classes of securities held in an investment portfolio reflect the results of a philosophic approach to investments rather than influence the making of that approach. We do not, for example, increase the percentage of common stocks held to 50 per cent just because 50 per cent is a generally accepted figure. On the contrary, our holdings change because of some such occurrence as this.

Good bonds and preferred stocks are called in large numbers, thus reducing the percentages held in our college portfolio. But we colleges have to keep funds invested, so our choice is then made between lower grade issues in the categories reduced by calls and expansion of different categories, such as government bonds or common stocks.

The investment process takes place in a market where supply and demand are matched. Can continuous maximum income be best obtained from government bonds or from diversified intrinsic values among common stocks? Will we shy away from adding to our common stocks because enough is enough at 50 per cent? This is a test of our endowment philosophy which I think is not to be met logically or successfully by the well known automatic or formula plans.

Mechanical plans are used by a number of colleges on the theory that market swings are to a certain extent predictable. Portfolio ratios are changed when either the market or percentages of securities held in the portfolio reach a certain point. The sale or purchase of securities is thereby automatically timed and investment committees are encouraged to sell or buy when mass psychology discourages them from taking the correct market position. If the object is to keep a par or book value, then perhaps formula plans are justifiable; but if continuous maximum income is the objective in our philosophy of endowment management, then we will rely upon our knowledge, reason and judgment rather than upon a robot mechanism.

LOOKING FORWARD

Today the prevalent fear that inflationary forces will operate to reduce the educational utility value of endowments beyond the present stage is not to be brushed aside lightly. If that threat assumes extreme proportions, we shall, of course, have no investment problems. Endowments will vanish first by way of fixed income securities, later by way of equities. We are, therefore, more concerned with the problems of degree of inflation, or deflation perhaps, than we are with loss of endowment which a collapse of capitalism would bring.

What guidance can we expect our investment philosophy to give us in plotting our future course? The answer depends upon the things in which we believe. It is my contention that a changing philosophy or mental attitude is needed by all college investors to meet the conditions of change which we encounter around us. The inflation trend is only one of the more serious problems for endowment managers to solve. We shall have to combat the new order with a new philosophy. Our minds must be reconverted as often as our factories.

Since we don't know what lies ahead of us and cannot find out by looking backward, we must develop philosophies which are flexible, dynamic and free of conventions and prejudice. In this great task we need the judgment, experience and the open minds of all.

College and University Business

CONTINUING STUDY OF OPERATING PRACTICE

Beginning with the November issue, **College and University Business** ***will initiate a reader service known as the "Continuing Study of Operating Practice" in which current practice in various phases of college administration will be summarized on the basis of reader polls.***

"How do other colleges handle this problem?" is the question that pops into the mind of most college administrators as they face a new problem. **College and University Business** ***proposes to answer such questions on the basis of sample surveys of administrative practice.***

First of these studies of operating practice to be presented will concern what in the way of linens, blankets and other supplies for dormitory living students are required to furnish. Look for it in the November issue.

Readers are encouraged to submit questions that lend themselves to reader poll technic. In this way college business officials can assure themselves of maximum benefit from this new editorial service.

MICHIGAN'S NEW BUILDING FOR *Administration*

MALCOLM R. STIRTON

Harley, Ellington and Day, Inc.
Architects and Engineers, Detroit

THE ADMINISTRATION BUILDING now under construction for the University of Michigan is the result of a careful study of the administrative problems of a large university. Fundamentally the problem was to place all administrative functions under one roof with great flexibility inherent in the planning to accommodate the ever-changing needs of a progressive university program.

The result is a five story and basement building with approximately 30,000 square feet on a floor. It contains no classrooms but classrooms have been made available all over the campus by the removal of isolated administrative functions from other buildings.

The only student activity in the building is on the first floor where part of the activities of student registration is handled. In the same lobby student payment of fees, dormitory rents and loans are accommodated. On the first floor are located also the offices of the dean of students for men and for women as well as the residence halls department. In this way students are confined to the first floor except in special cases.

The second floor houses the executive offices of president, regents and vice presidents as well as the general administrative functions of the business office.

The third floor has additional offices, such as a general secretarial pool for professors on the campus who have no secretaries, the personnel department, bureau of appointments where industry can screen applicants for positions and other offices necessary for the complex work of a large university.

The University of Michigan has a large program of extension courses designed to assist students and adults not in residence. This department will be accommodated on the fourth floor of the new building and will include visual education, correspondence study, business machines and administration of the extension departments located in other cities of Michigan.

The radio broadcasting studios on the fifth floor are actually a part of the extension service as the programs are designed for adult education in Michigan. These studios will embody the latest improvements in broadcasting technic and will be headquarters for the university's frequency modulation chain of studios scattered throughout Michigan. The FM transmitter will be located just outside of Ann Arbor.

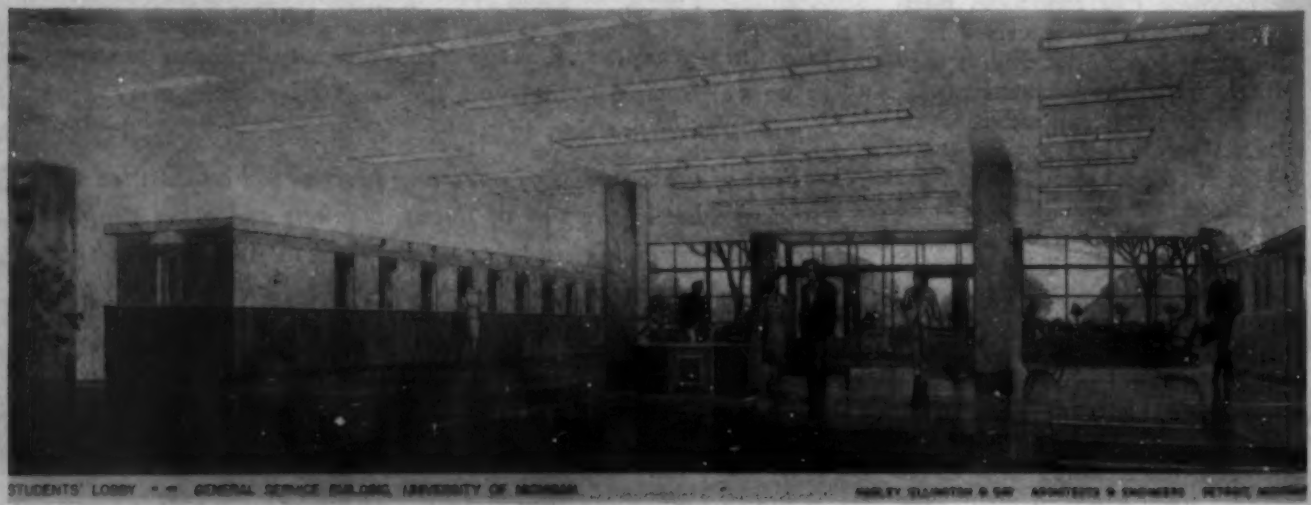
The first requirement of design in a building housing such a variety of office requirements is flexibility. Any department should be able to grow or to decrease as future needs develop. For this reason the building is designed on a 5 foot module. This means that partitions may be erected any place along the outside wall to provide offices of 5 foot units of 10 feet, 15 feet, 20 feet and so on without interfering with window spacing.

The architects, Harley, Ellington and Day of Detroit, also made interior flexibility possible by clear-spanning the building with 45 foot steel trusses so that no columns will interfere with new room planning. Continuous acoustical ceilings run throughout the building with specially designed fluorescent lighting so located that new partition locations do not disturb the general overall lighting.

To ensure flexibility in floor outlets for telephone and electrically operated equipment a cellular steel floor has been specified. This type of floor permits outlet locations any place in the building within 6 inches of the exact spot desired.

Throughout the structure emphasis has been laid on ease of maintenance and operation. For example, no exterior painting is required. Stone trim around aluminum sash eliminates any painted surface. The aluminum sash are so designed as to provide a hopper vent for controlled ventilation at the window sill line, at the same time permitting the satisfactory screening conditions of double hung sash.

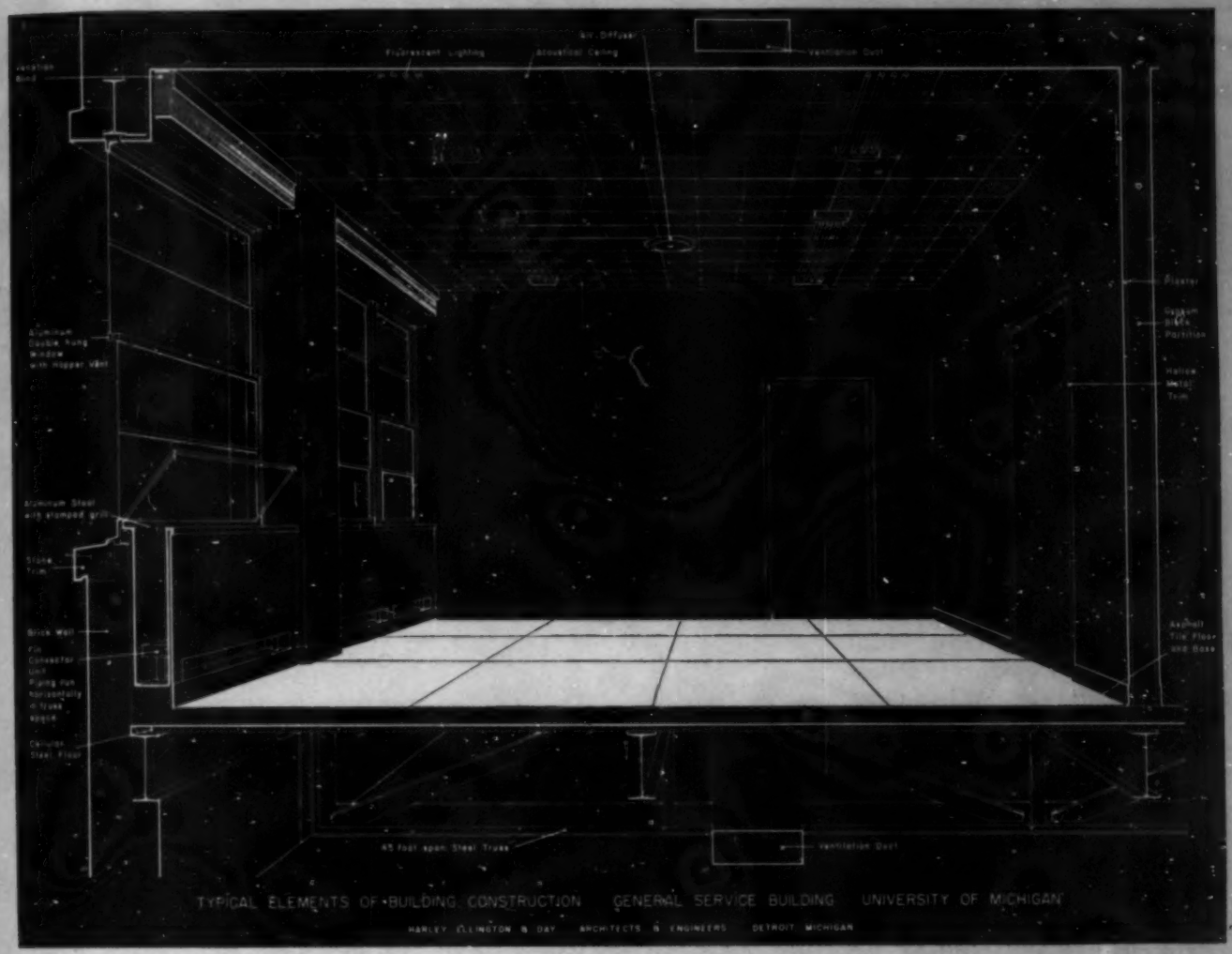
Ventilation, piping for convector radiators and lighting wiring are all



STUDENTS' LOBBY . . . GENERAL SERVICE BUILDING, UNIVERSITY OF MICHIGAN . . . HARLEY ELLINGTON & DAY, ARCHITECTS & ENGINEERS, DETROIT, MICHIGAN

carried in the truss space above the ceiling and made available through access panels. A typical maintenance detail is the raising of the bottom opening to the convector unit above the base to facilitate floor cleaning.

Careful study and screening of requirements were obviously necessary to correlate the many departments to be housed. This careful study is reflected in the simple straightforward type of planning followed. The cost of the building has indicated that the efficiency and flexibility of the plan have been achieved without extra expense. Ease of operation and maintenance after completion should follow as a result.



TYPICAL ELEMENTS OF BUILDING CONSTRUCTION GENERAL SERVICE BUILDING UNIVERSITY OF MICHIGAN

HARLEY ELLINGTON & DAY ARCHITECTS & ENGINEERS DETROIT, MICHIGAN

REGENTS' ROOM, GENERAL SERVICE BUILDING, UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN

HARLEY ELLINGTON & DAY - ARCHITECTS & ENGINEERS, DETROIT, MICHIGAN

UNIVERSITY OF OMAHA IS *Air Conditioned*

ROBERT L. MOSSHOLDER
Director, Department of Information
University of Omaha

THIS IS THE STORY OF AN INSPIRATION—a $54,000 inspiration to be exact—which has helped in an important way to make the University of Omaha the unique institution that it is today.

For eight years now university publicity has been pointing out that Omaha is probably the only completely air conditioned institution of higher learning in the country today or, for that matter, in the world.

The story begins in 1937 when public minded citizens and officials were completing final plans for the new home of their municipal university at 60th and Dodge streets. Those of you who have motored on Federal Highway 6 west through Omaha and out Dodge Street will undoubtedly remember the beautiful university building and campus on the south side of the road in one of the city's finest residential areas.

When the new building was under way, an engineer on the staff of John Latenser and Sons, architects, had a sudden inspiration which at the time seemed as challenging as it was unorthodox. Why, asked he, could not the heating system in the new school be made to serve a double purpose: heating during the winter and air cooling during the summer?

Although the idea had not been tried to any appreciable extent, the architects were convinced that the plan was sound. As they pointed out, the air cooling equipment could be added at a relatively small additional cost. For an extra $54,000, they said, just 3 cents more a cubic foot, equipment could be added that would provide controlled temperature throughout the year.

Regents quickly agreed to the purchase of the necessary cooling equipment, which consisted of cooling coils, two wells providing an ample supply of 50° water, storage reservoirs and mechanical refrigerators. The cooling coils were installed in the suction side of the fans of the indirect heating system. During the winter months, the cooling coils are simply by-passed, while in the summer the heating coils, which are located downstream from the fans, are by-passed.

Proof of the growing popularity of the university's air conditioned classrooms and laboratories is found in enrollment statistics. Records from the office of the registrar show, for example, that the summer sessions draw students from more than 40 colleges and universities. And, of course, one of the important reasons for this growing interest in the university's summer program is the washed, cool air which keeps every one of the building's 200 rooms at a pleasant temperature, regardless of weather conditions outside. Students as well as faculty members find air conditioning conducive to better study and performance.

Air conditioned advantages, however, extend throughout the year, for the air reaching all the rooms, winter or summer, is washed, filtered and properly humidified.

Says Ellen Lord, librarian: "I don't know what we would do without it. Each morning and afternoon the library is literally packed with students either studying or going through the stacks. To accommodate so many people in one room and to do it as pleasantly and comfortably as we do it now, even in the hottest weather, would be impossible without air conditioning."

E. M. Hosman, director of the summer school, is just as enthusiastic. He admits that the building is an important reason for rapidly growing summer enrollments.

Seldom now does Dr. Hosman have to send out more than one call for summer instructors. Most professors, including those from other schools who have learned of the university's

air conditioned classrooms, prefer teaching in the cool atmosphere of the university to a hot rest at home.

But now for a look at the university building itself. As the picture shows the structure is H-shaped, with three story wings on the east and west and a four story center unit. Actually, it is three buildings in one.

Its 1,750,000 cubic feet give an indication of the size of the building. The third and fourth floor ceilings are completely insulated with a 4 inch blanket of top grade insulation. Outside walls are 16 inches thick, with 1 inch air space between the brick and the inside plaster. All windows, and there are 460 of them, have double glass and are weather stripped.

To heat this building in Omaha's 6000 degree day winters, the university has two low pressure, 18,000 feet heating boilers, stoker fired, which use on the average of 350 tons of bituminous coal a year. Jack Adwers, building and grounds superintendent, is especially proud of the low operating cost of heating and air conditioning, which, he says, is due to sound building construction and resulting low heat transmission loss.

Mr. Adwers estimates the operating cost of winter heating at approximately $3 an hour, not including labor. The cost, on the same basis, for cooling the air in the summer is approximately $5 an hour.

If these operating figures somehow fail to impress you with the efficiency of the university plant, then let Mr. Adwers show you what is going to happen when the University of Omaha has its two large Quonset huts in operation this winter. The one hut has 8000 square feet of floor space, the other 5600. Both huts were added this summer to allow the university to accommodate a greatly increased September enrollment. The two Quonset huts, which will be heated by the present plant, will take almost a third as much heat as is now used in heating the 1,750,000 cubic feet of the main building.

The maintenance staff keeps the building temperature at 72° F. during the winter. During the torrid Nebraska summers, when the thermometer many times soars above the 100 mark and sometimes stays there for several days at a time, the inside temperature of all the rooms is made to vary with that on the outside. Starting with an outside temperature of 75° and an inside reading of the same, the room temperature is raised one degree for every five outside. When the thermometer outside goes above 95°, then the inside temperature is maintained at 78° or 79°.

The air conditioning unit is so arranged that engineers can increase the amount of cool air in one room or section of the building and decrease it in others. This feature has been a life saver the past year when university officials found themselves with overflowing classrooms and laboratories in one part of the building and smaller classes in others.

Another important feature is the installation of separate exhaust systems for the laboratories, kitchens and other rooms; this eliminates the likelihood of objectionable odors circulating to the rest of the building. Fresh air for these rooms, however, is supplied by the regular ventilating system, the intake being in the cupola above the center section.

It might be interesting to know how the air conditioning unit works. Cool water is pumped from the two wells to a 100,000 gallon storage reservoir. From the reservoir it is taken to the mechanical refrigerators, then to the cooling coils, then to the condensers and ultimately back into a second reservoir.

The water from the second reservoir is pumped into the lawn sprinkling system or, if the grass is not in need of sprinkling, into the sewer. On an average summer day in Omaha, about 135,000 gallons of water will be used.

Standing beside a part of Omaha's refrigerating and blowing equipment are Clyde Hiatt, building engineer; Louis Norlin, wartime navigator on a B-24, now learning to be a plant engineer under the educational provisions of the G.I. bill; Jack Adwers, building and grounds superintendent; Eldon Weehler, a former B-29 flight engineer who has returned to the university's staff as a V.A. on-the-job trainee.

It is certain now that the university's heating and air cooling system will be put to its greatest test this fall and winter. President Rowland Haynes points out that, although the building was designed for a top enrollment of 1000 students, it will be possible by utilizing room space more efficiently and by operating ten or more hours a day to accommodate up to 2000 students.

If this enrollment becomes a reality, and it is indicated that it will, the university will have a chance to determine the real flexibility of its heating and ventilating system. Although the plant superintendent has his fingers crossed, he is confident the job can be done.

IMPROVEMENTS IN COLLEGE ARCHITECTURE

Isometric aerial perspective of proposed school building in Saginaw, Michigan. Model by John Henry Moehlman.

ERNEST PICKERING
Head, Department of Architecture
University of Cincinnati

THE PLANNING OF BUILDINGS IS concerned with three factors: the design process which develops the plan and exterior; the construction which produces the structural system of steel or concrete piers and beams, and the equipment which, through the technics of electrical work, heating and plumbing, provides comfort and convenience.

In looking around over the country, it is evident that the sudden ending of the war caught many schools unprepared for the postwar enrollment. Although most institutions were planning additions to their physical plants in classroom buildings, auditoriums, field houses and student unions, together with a few dormitories, on the whole the program of housing was not geared to the influx of married and single veterans.

TRENDS IN PLANNING

In some instances, of course, this action was intentional, because the large enrollment typical of this winter and perhaps next fall may be of only three or four years' duration. The university which builds for what may be an abnormal situation may find itself overbuilt a few years from now. School administrators are faced with important policy-making decisions during the coming months with reference to the size of their physical plants.

Any analysis of trends in design, be it related to chemistry buildings, power plants or veterans' apartments, must concern itself with two periods in our most recent history: one which includes the buildings erected during the 1930's and the other which includes the plans developed during the early 1940's for construction in the late 1940's. In other words, we must look at those buildings actually built before the war and those planned for the early days of reconversion in order to understand the significance of trends in planning.

I believe that it can safely be said that the structural systems of college buildings have remained substantially unchanged. There have been some minor innovations but the reinforced concrete structure, brick or stone walls, steel or wood sash and slate or built-up roofs of a decade ago are still familiar features of contemporary buildings.

It is in the field of equipment that the greatest improvements have been made—not revolutionary changes but gradual improvements in the methods which provide light, heat and air. More attention is being paid to comfortable seating, vision and hearing. The school building of the postwar period should provide less strain on the eyes, ears and body. Summer air conditioning and the elimination of reverberating noises through installation of acoustical treatment appear in the building specifications of modern schools.

Unfortunately, the science related to physical comfort and convenience has not yet had as much influence upon the plans and exteriors of college buildings as it has had upon the design of buildings for the secondary schools. A glance through the architectural magazines reveals that contemporary grade school buildings are quite unlike their predecessors of a decade or so ago. Those of today have become low, horizontal, open structures, with a great amount of attention paid to orientation, light and the influences of interior arrangements. They are nontraditional machines for education and, in many instances, are interesting and beautiful structures.

On the other hand, most of the university and college buildings erected in the 1930's and proposed for the 1940's are still largely Georgian or Gothic in character. This may be partly because of campus traditions which might make a building in the "international" style seem incongruous and out of place under some circumstances. Whatever the reason, college architecture is still clinging rather closely to the past in its external appearance.

There are, however, some notable exceptions to the foregoing. At one of the large eastern universities, it is proposed to double the size of an important Gothic building by the addition of a nontraditional wing with horizontal windows, glass blocks and bands of colored belt courses—and the drawings suggest a harmonious exterior.

NONTRADITIONAL DESIGN

At one of the Big Ten universities, a classroom building has an interesting contrast between a low, horizontal portion and a vertical towerlike structure of eight or 10 floors, with no resemblance to any of the traditional architectural styles. One of the universities located in the southern prairie states has gone completely "modern" with its new building program, probably feeling an upsurge of the old pioneering spirit of its founders.

These excursions into the field of nontraditional design should be encouraged wherever campus plans, building groupings and school traditions will permit. Architectural designers more or less agree, however, that the style should grow from a good, workable plan and that the exterior should be expressive of properly related interior units. Trends in college architecture during the coming decade will probably depend upon the vision of those charged with the planning of buildings and the possible adjustment of new ideas with local conventions and attitudes.

TWELVE VIEWS ON FEDERAL AID

Higher education must have more money, these state university presidents agree. When it comes to added federal support, they differ as to whether such policy may prove sound or dangerous

EDUCATIONAL PROVISIONS OF THE G.I. Bill of Rights have resulted in a mass movement of war veterans to the American college campus. Funds have been provided by the federal government which exceed any grant to higher education in the history of civilized man. Does this support by the public treasury have within it dangers which may destroy or render ineffective the education intended?

To sample the thinking of the nation's educators, COLLEGE AND UNIVERSITY BUSINESS asked presidents of state institutions this question: "Should state colleges and universities receive additional aid from the federal government to assist them in the performance of their educational responsibilities?" Excerpts from the replies received follow:

H. C. BYRD
University of Maryland

The land-grant colleges are already receiving large federal funds for educational purposes. I can see no reason why these funds should not be increased if the federal government desires to do so.

HOWARD L. BEVIS
Ohio State University

It has been my consistent opinion that the cost of maintaining state supported higher education should continue in the main to be borne by the states. The federal government has, of course, participated in the cost of agricultural extension service, and there are certain problems, particularly those relating to housing generated by the war, to which I think the federal government might well make a contribution.

G. L. CROSS
University of Oklahoma

For several years it has been apparent that if the state colleges and universities are to perform adequately the educational responsibilities assigned to them, they must have additional federal aid. Many state institutions are carrying loads far out of proportion to the funds which the resources of particular states can make available for their purposes. If higher education is to meet the needs of some of the states, federal financial aid is necessary.

Recent amendments to the G.I. Bill of Rights will go a long way to meet the increased burden placed upon the university by returning veterans. But, even with this aid, state colleges and universities are going to find that federal financial aid is essential if they are to compete with government and industry in the recruiting of adequate faculties for the teaching of the returning veterans.

HARRISON C. DALE
Formerly, University of Idaho

Public education must be open to all who can profit by it. State appropriations should undoubtedly be increased far above customary levels. The privilege of self determination in education has its price, and that price is less niggardliness in state appropriations.

The states cannot have it both ways; in the long run they cannot demand educational autonomy and at the same time educational impoverishment. What is more, the state, unlike the federal government, has plenty of money.

But why do institutions face these markedly higher costs? The states did not defer the education of their youths by putting them for nearly four years into army camps and on battlefields; the states did not embark on financial policies that inevitably spelled inflationary prices; the states did not enact the educational provisions of a G.I. Bill of Rights which subsidizes the veteran while it imposes terrific financial burdens on all nonendowed and nonprivate institutions of higher learning. The responsibility for meeting this vastly greater financial need can be laid squarely on the national doorstep.

The problem then becomes one of adjusting this financial obligation between the states on the one hand and the federal government on the other, and at the same time safeguarding the state's independence of control. Eighty-four years of experience with federal aid under the Morrill Act has shown that federal financing can be undertaken without federal domination. Higher education must have more money. National policies inaugurated by the federal government have created this need. Therefore, the federal government has incurred an obligation the major burden of which it and only it can adequately and fairly discharge.

W. B. HATCHER
Louisiana State University

The contribution of any state university to society goes beyond the boundary of the state. Take, for example, Massachusetts Institute of Technology, perhaps the leading technological school in the United States. Its graduates are not confined to Massachusetts; their work is nationwide. In fact, all states in the union and even the whole world have profited by this school.

The nation has a responsibility to its state schools and also to some of the private and endowed schools. However, it would not be wise for the government to give financial aid to all schools. Standards should be set and maintained. When a school meets the standard set by the U. S. Office of Education or by such a standardization body as may be proper, I can see every justification for liberal subsidization by the federal government.

This is a national problem and should not be approached from a political angle to see how much Countyline University can extract from the government. The government should aid those who can prove

that they are making a real contribution to the society of the nation and even to our less fortunate neighbors across the sea.

JOHN S. MILLIS
University of Vermont

Though I am not strongly convinced either way on this question, my present thinking is that the responsibility for education lies with the states rather than with federal government. There are certain areas of specialized education in which the government will have to lead in order to meet the educational needs of the citizens. Such was certainly the case at the time of the Morrill Land-Grant Act when it was obviously necessary that instruction in agriculture and mechanic arts should be on a nationwide basis. That experience in federal subsidy of public institutions certainly has been successful and gives no reason for excessive fears about federal interference in state-controlled institutions.

On the other hand, I feel that the states are in positions to finance adequately the programs which are already in existence and that, therefore, no federal assistance is required in those areas. However, in a rapidly changing economy, new educational needs appear, and it seems to me that we could well look to the federal government for leadership and initial subsidy. After such programs are established, obviously the states would be expected to maintain them and to support them on a regular basis.

J. L. MORRILL
University of Minnesota

State colleges and universities should receive additional financial aid by establishing four basic principles.

Only those colleges or universities already publicly maintained and controlled should receive direct undesignated federal aid.

The principle of granting direct aid, through scholarships and fellowships to worthy and promising individuals who are free to select institutions for study, public or private, seems sound and desirable.

For designated purposes such as research or new types of special instruction it may be desirable to make federal appropriations to colleges and universities, either public or private, of proved competence to carry out the purposes of such grants . . . but the institutions must be prepared to accept some contingent measure of federal supervision and control in the expenditure of such monies.

Additional federal aid for the state-supported colleges and universities to carry the burden of veterans' instruction and housing is clearly indicated at this time and the same will be true of other developing areas of special need.

RAYMOND R. PATY
University of Alabama

Recent events have made clear that the existence of the nation, not only its rate of progress and development, may depend upon the level of progress in research. Especially in the field of fundamental rather than applied research, the universities offer the best hope for successful development. The national interest is so evidently involved that the adequacy of provision should be made sure by the federal government.

The next few years will see unusual burdens and strains placed on colleges and universities by the return of hundreds of thousands of men whose schooling was interrupted by war service. The federal government has a definite responsibility to these men. The emergency arose as a national problem and should be met, at least in part, by the federal government.

Federal aid for education is needed on the elementary, secondary and college level. The relatively lower ability of the people of the poorer states to support adequate programs of public education calls for federal funds to provide a greater equality of opportunity for American youth. This can be done without impairing essential local and state control of their systems of public education.

ROBERT G. SPROUL
University of California

The federal government has the opportunity and, I believe, the responsibility to promote the welfare of the entire country by subsidies in support of projects which are widely recognized as necessary but not readily attainable except by concerted action on the part of the entire nation.

As to how far the federal government should go in providing financial aid it is difficult to say. Certainly that aid should never be more than a small fraction of the educational budget in any state. Each new proposal should be scrutinized most carefully to determine: (1) that it meets a real and recognized need among the states which cannot be satisfied by the states in severalty and (2) that the terms of the permissive act provide no more than the minimum of federal control to assure that the purpose of the aid will be observed.

To prevent a perpetual increase in the amount of federal aid and the dangers inherent therein, future grants should be made for a specifically stated number of years and should be pointed toward eventual transfer of financial responsibility to the states.

JOHN C. WEST
University of North Dakota

A great amount of teaching and research in highly specialized fields may be profitable to a region or to our country or to the world at large. Many state schools cannot participate in such a program because of the limitations in the financial field.

The Great Plains states have an abundance of low-grade coal which concerns the country at large, both as to fuel for power and as to breakdown into gases, gasolines, oils and other products. The talent and the machinery to carry on research pointing this way are too costly and too complicated for the ordinary school to attempt. If this work is to be done on the ground where it can best be done, there must be subsidies from the government or from educational foundations of one kind or another. This seems to be elementary.

Grants from the federal government should be made available to the state colleges and universities in the amount of the need to develop certain specific projects, but not in a flat sum. To extend a blanket appropriation to be divided among the states according to population hardly fits the picture, since the needs of development of natural resources may be greater in the very states that have little population.

Perhaps we can generalize by saying that general education is, as it has been for the last century, in the hands of the separate states, but especial types of education which are needed to further the interests of our country or of regions or of areas of exploration should be financed by the federal government.

ARTHUR CUTTS WILLARD
Formerly, University of Illinois

The principal area in which the state colleges or universities are in need of additional financial aid from

the federal government is in meeting the needs of veterans who enroll in these institutions. Since some state colleges and universities have very low tuition and some private institutions have very high fees, and because the reimbursement formula in the G.I. Bill of Rights was based upon tuition charge, the private colleges were in a position to receive more reimbursement. All colleges and universities should receive reimbursement for educating veterans equivalent to the cost of their instruction.

A related problem of great seriousness is housing for students, particularly veterans. Unless the government can substantially aid state colleges and universities in providing housing for veterans, these institutions cannot render the service to these students that the government expects.

In general, officials of the University of Illinois do not believe that publicly supported colleges and universities require or should seek federal government aid, such as, for example, that recommended by the Advisory Committee on Federal Aid to Education in the form of emergency aid for the war period. States and municipalities should be able to take care of the financial needs of their institutions without recourse to emergency federal aid.

Federal aid in past years to public institutions, especially land-grant colleges, has been most helpful to those institutions in the development of certain areas of research and public service. The principal criticism is that the areas have been limited in such a way that many other important fields could not have the benefit of such grants. Land-grant colleges were originally intended to serve both agriculture and mechanic arts but federal appropriations have been limited to aid in agriculture.

Any grants made by Congress to colleges and universities should carry just a minimum of restrictions and provide for a minimum of federal administration and a maximum of institutional responsibility.

CARL R. WOODWARD
Rhode Island State College

The principle of federal aid for higher education has already been well established in the land-grant colleges. The volume of federal aid has been increased from time to time as these institutions have been asked to expand their programs and to provide additional services in resident instruction, research and extension.

I believe this principle is sound and should like to see it further developed. The system of land-grant colleges is unique, democratic and typically American. Their contribution toward the economic, social, scientific and cultural progress of the nation is inestimable. The further expenditure of federal funds to permit these institutions to extend their services would be a good investment of the taxpayers' money.

I do not believe in direct federal subsidy to privately supported institutions. We need the privately endowed colleges and universities, and we need to keep them wholly independent of federal or state control. However, I am not opposed to the principle of the federal government's contracting with private institutions of higher learning for specific services or of providing scholarship aid to worthy students for attendance at private institutions as well as at publicly supported institutions.

COLLEGE UNION STANDARDS

for TRAINING, EXPERIENCE and SALARIES

Prepared by ASSOCIATION OF COLLEGE UNIONS

IT IS THE FIRM BELIEF OF LEADERS in the management of college unions that emphasis must be placed upon adequate preparation for union work and that this preparation should be generally comparable in amount and thoroughness to that required for the college professions most closely related to it, namely, university teaching and personnel work in the case of the union's educational and social staff, and institutional management in the case of the business and food service staff.

To achieve this standard it will be necessary to offer compensation commensurate with the preparation desired.

SALARY STANDARDS

Salary standards recommended for the several positions are such as would command the services of employes with the necessary preparation and qualifications. The salary ranges recommended are necessarily wide because of the variation in responsibility assigned under titles in various localities.

For example, the title of "dining room manager" may apply to a supervisor in charge of a single small dining room or to a staff member in charge of an extensive food service including dining room, cafeteria, soda fountain and catering service with elaborate facilities and large staff.

It should be recognized, of course, that the duties to be performed by the union's educational staff on a small campus are as important relatively and require as great talent in social leadership as those on a larger campus, regardless of the size of the building plant.

It should be recognized also that there will be necessary differences in salary bases in different regions of the country where salaries in comparable related fields vary and where living costs vary. A still further consideration is that there are some communities, regardless of size, where college understanding and appreciation of community recreational needs have developed far beyond the average understanding and that such communities will want to pay a salary or salaries in

excess of those average standards in order to obtain the unusually capable personnel necessary to carry on a pioneering program.

Nevertheless, as a general rule the larger the building plant, the larger the program and the staff, the larger the number of people to be served and the more complex the executive and supervisory problems. These conditions require greater experience and maturity in their handling by the principal staff officers.

For lack of a better available measuring stick, size is broadly defined as follows:

Small, plant and equipment of less than $500,000.

Average, plant and equipment of from $500,000 to $1,000,000.

Large, plant and equipment of more than $1,000,000.

Aside from the variables indicated, a useful principle in approaching the question of compensation is this: Each college has in its salary scales for other college teaching and administrative positions its own general measure of ability to pay and of the standard of performance it expects. The union director, in the view of many college administrations and of the Association of College Unions, should hold the same status and have the same salary (granted the necessary preparation and the same effectiveness of performance) as the directors of other major divisions or departments of the college.

Other key union staff members would then stand in the same relative position to their director, in salary scale and status, as the college is able to afford for assistants of the same training and effectiveness in other college divisions.

TYPES OF POSITIONS

Two staff functions are to be performed in every union, each paralleling and supplementing the other and both under one directing and coordinating head: (1) the educational function, which includes the direction of a recreation program for the campus and the counseling (even organized instruction) of students, individuals and groups, in social and recreational fields, and (2) the business and administrative function of operating the building plant and its varied services.

Typical positions are here grouped under these two functional headings according to the primary emphasis of staff duties and preparation, though in practice both educational and administrative functions are often discharged by the same personnel.

When these dual responsibilities are assumed in large measure by the same person it is often at the expense of one function or the other. Most unions have need for two types of personnel each especially qualified and, under the coordinated direction of the union director, free to concentrate his efforts in either the educational or the management field.

The following is a description of the titles more generally used in unions and other campus community centers and of the responsibilities usually assigned to each position.

EDUCATIONAL STAFF

Director

Chief officer in charge of the total activity of the union and of its personnel. Coordinates and interprets all staff, student and college effort, both educational and business, to realize the union's objectives of social education. Largely determines the union's goals and standards of performance through selection of personnel, guidance given to student committees and personal example. Usually responsible to the college president; sometimes responsible to the president through a union governing board.

Assistant Director

Shares the administration of the recreation program with the director. Instruction, personnel work, research, training of recreation leaders may fall under his direct supervision in the case of a union conducting a large educational program. Responsible to director and acts for director in his absence.

Directors of Special Activities

Specialists in charge of special phases of program development, with greatly varying responsibilities depending on extent of facilities and program. Examples are program consultant or hostess acting as adviser to social, art, music, forum, literary and game committees and clubs and assisting with the social and activity guidance program generally; theater director; craft shop director, and outing director.

BUSINESS STAFF

Business Manager

Chief officer in charge of the operation and maintenance of the building plant, recruitment of service employes, purchasing, accounting and financial management generally. Responsible to the director.

Administrative Assistant

In charge of such auxiliary enterprises as room reservations, information desk, cloakroom, office rentals, game rooms, barber shop and hotel unit. In smaller unions this position is often combined with that of business manager under the title "assistant director."

Maintenance Supervisor

In charge of mechanical operation of plant and equipment, maintenance and repairs, housekeeping and building protection.

Dining Supervisors

Food service director or dining room manager in general charge of food production and service in all dining units and of food personnel, including cafeteria supervisor, grill room supervisor, fountain room supervisor, catering supervisor and chef. In the food departments of the larger unions there is also often found the position of "assistant dining room manager."

The foregoing descriptions of duties are purposely general and loosely defined because of the belief that no blueprinted set of duties applies in all instances or for a very long period of time in a given situation. The combination of duties for individual members of a staff should be in terms of the personality, training and special aptitudes of the individual rather than in terms of the title of the position.

NUMBERS OF POSITIONS

Regarding numbers of key staff members or supervisors, there is no standard formula, nor is the number necessarily conditioned by the size of the building plant or student body, especially in the case of the social and educational staff. Rather, the size of the staff should be determined by the needs of students and the purposes which the college expects the union to fulfill.

At present the number of full time department heads and directors of special activities varies among unions from three to as many as 18 (12 of this number being educational staff members with faculty rank).

A clue to the relative sufficiency of the union staff at a given college will be given by an examination of the number of staff members appointed to

care for the physical health and physical recreation and sports program of a student body in comparison to the number appointed at the union to care for the social health and social-cultural recreational program of the same student body.

One important practical consideration often overlooked by college administrations in staffing a union is that union buildings normally operate seven days a week, including holidays, from early morning to late evening—two 8 hour work days each day of the week. The requirements for staff supervision during a 16 hour day and a 7 day week should inevitably lead to an increase in the number of supervisory positions in a union over those provided for the normal 8 hour, 5½ day operation of other college departments. Otherwise injury will be done either to the program or to the staff members.

One of the great weaknesses in union staff organization in the past has resulted from failure of the administration to recognize that when the usual 5 o'clock office closing time comes on the campus another full work day is just beginning at the union, with the heaviest administrative load often falling in the evening and on Saturdays and Sundays.

DESIRABLE QUALIFICATIONS

Important as it is to select union staff members for their special abilities to direct particular activities, it is of even greater importance to take account of their general qualifications.

The greater the responsibility of the union staff member, the greater should be the emphasis on qualifications. No key worker should be accepted for the least responsible position where dealing with people is the prime concern, however, without careful consideration of his broad cultural background and potentialities for growth and development—the kind of person he is.

Recommended standards follow for special qualifications, age, experience, education and salary for the several positions listed. These standards are given not for the purpose of being rigidly applied to any given position but as suggestive criteria which may be helpful in appraising the qualifications of a candidate.

There is no recommendation that a candidate be an alumnus of the appointing institution. This arises from the strong belief that the qualifications of the applicant to do well the job at hand should be the matter of paramount concern, whether he is an alumnus or not.

EDUCATIONAL STAFF

Director

Special Qualifications: A well developed talent for leadership of college students, thorough knowledge of the philosophy and technics of group work and informal education; understanding of the social and recreation needs of the college community and an imaginative conception of the possibilities of the several activities which make up the campus recreation program; personal skill and interest in two or more recreation activities; ability to stimulate student interest and to enlist the best efforts of staff and employes; organizing and executive ability; thorough familiarity with institutional business and management practice.

Minimum Age:

Small unions	24 years
Average unions	25 years
Large unions	28 years

Experience: Previous experience in an executive position in a union or closely related field, *e.g.* assistant director of a union, director or assistant director of a community center, school recreation program, summer camp, U.S.O., Red Cross or military recreation center, college personnel or guidance work. Experience as a school executive, army or navy welfare and recreation officer, private agency recreation director, personnel director, business executive, alumni secretary or teacher is valuable.

Minimum Experience in Years:

Small unions	2
Average unions	3
Large unions	5

Education: Graduation from four year college course and a higher degree or equivalent training through demonstrated effective performance as union or community center director. Specialized college training in group work, social psychology, community organization, recreation administration, education methods and administration, personnel work, business administration and especially those courses leading to a recreation major or minor as offered in some colleges is most pertinent. Effective participation in extracurricular activities will contribute vitally to preparation.

Salary:

Small unions	$3000 to $3500
Average unions	$3750 to $7000
Large unions	$4250 to $8000

Assistant Director

Special Qualifications: In general, the same as for the director since the person in this position acts for the director in his absence, carries a large share of the supervisory responsibility of a 16 hour daily program and, in effect, is in training for a union directorship. In any given organization it is valuable, also, for an assistant director to offer special training or skills.

Minimum Age:

Small unions	22 years
Average unions	24 years
Large unions	26 years

Experience: Previous experience as a director of a special activity in a union or community center, as a teacher, as an assistant in a college guidance program or as an assistant director of a U.S.O., Red Cross or military recreation center. Leadership of one or more major college activities as an undergraduate.

Minimum Experience in Years:

Small unions	1
Average unions	1
Large unions	2

Education: In general, the same as for director, except that graduate studies may be carried on concurrently with union work.

Salary:

Small unions	$2250 to $3000
Average unions	$2500 to $3500
Large unions	$2750 to $4500

Program Consultant or Social Director

Special Qualifications: Thorough familiarity with the philosophy of recreation and group activity and the technics of guidance and informal education; a natural leadership and teaching ability; personality that is attractive to young people; high degree of personal social competence, even temperament.

Minimum Age: 22 years

Experience: Previous experience as participant and leader in college social and extracurricular activity. Experience in personnel or group work, U.S.O. or Red Cross is valuable.

Education: Graduation from four year college course, with graduate work desirable. Special training in

personnel work, vocational guidance, social service, group work or educational methods.

Salary: (size of building not a determining factor) $1500 to $3000 (10 months' basis).

DIRECTORS OF SPECIAL ACTIVITIES

Workshop, Theater, Outing

Special Qualifications: Ability to enlist interest in, organize, lead and teach a particular activity in the union recreation program. Sympathetic appreciation of the recreational values of specialized skills.

Minimum Age: 23 years

Experience: Because of the range of activity for which special leaders are employed, no specific minimum experience can be suggested for this type of position. Wide experience as a participant in the activity is essential, however, and some previous experience as an instructor is highly desirable.

Education: College graduation. Specialized college or professional training in the field under consideration.

Salary: (size of building not a determining factor) $1500 to $2600 (usually on 10 months' basis and often part time).

BUSINESS STAFF

Business Manager

Special Qualifications: Organizing and executive ability; thorough familiarity with the accounting methods and business management practices and technics of clubs, hotels or dormitories; sympathetic understanding of the union educational program and resourcefulness in conducting business operations so as to facilitate and support the program.

Minimum Age:

Small unions ..... 24 years
Average unions ..... 25 years
Large unions ..... 28 years

Experience: Previous experience in the business management of unions, dormitories, clubs, hotels, restaurants or military messes, or equivalent successful management experience in another business field.

Minimum Experience in Years:

Small unions 2
Average unions 3
Large unions 5

Education: Graduate of four year college course with special training in business administration (accounting, hotel practice, institutional management, home economics) or the equivalent training through practical business experience.

Salary:

Small unions ..... $2400 to $3000
Average unions .. $2750 to $3500
Large unions ..... $3000 to $4500

Administrative Assistant

Special Qualifications: Organizing, supervisory and administrative ability; familiarity with management practice in such units as hotel, restaurant, bowling, billiard and catering departments; resourcefulness in meeting wide variety of problems in public relations, employe training and efficient management arising in a service institution like the union.

Minimum Age: 22 years

Experience: Previous experience as student or staff worker in the union or business experience elsewhere of such character as to demonstrate administrative and management ability.

Minimum Experience in Years:

Average unions 2
Large unions 3

Education: High school graduation. College graduation desirable.

Salary:

Average unions .. $2100 to $2750
Large unions ..... $2400 to $3300

Maintenance Supervisor

Special Qualifications: Ability to direct and organize work of housekeeping staff; familiarity with operation and repair of wide variety of mechanical, hotel type of equipment; ability to lay out and execute or supervise building repair work; resourcefulness in adapting physical means to facilitate the conduct of the union program, and sympathetic understanding of the objectives of the work for which building and equipment are provided.

Minimum Age: 28 years

Experience: Previous experience in several building crafts, such as carpentry, painting, plumbing, electrical work, masonry and upholstery work, especially valuable.

Minimum Experience in Years: 5

Education: High school graduation. Vocational school or other technical training in building crafts, architecture or engineering valuable.

Salary:

Small unions ..... $2000 to $2500
Average unions .. $2100 to $2750
Large unions ..... $2400 to $3000

FOOD SERVICE DIRECTOR

Dining Room Manager

Special Qualifications: Ability to organize and train a large staff of both full time and student employes; thorough familiarity with all phases of food purchasing, preparation and service, especially in clubs or hotels; administrative ability; technical understanding of dietetics and menu making; sympathetic appreciation of special needs of student clientele; resourcefulness in utilizing dining rooms in accomplishing the general social and recreational objectives of the union.

Minimum Age: 25 years

Experience: Previous experience as a supervisor of a union or dormitory dining unit or equivalent experience in food management elsewhere of such character as to demonstrate ability to direct the varied food services of the union (cafeteria, grill, fountain, catering, kitchen).

Minimum Experience in Years:

Average unions 3
Large unions 5

Education: Graduation from home economics, hotel or institutional management course or equivalent in practical experience. College training in dietetics, business administration and accounting especially valuable.

Salary:

Average unions .. $2400 to $3600
Large unions ..... $2750 to $5000

(When the food director assumes the responsibilities of the general business management of the food department, in place of business manager, the salary maximum is sometimes higher.)

DINING UNIT SUPERVISORS

Cafeteria, Grill, Fountain

Special Qualifications: Familiarity with best practices in menu making and food preparation and service in particular kind of unit under consideration; ability to organize and train full time and student employes.

Minimum Age: 25 years

Experience: Two years' experience as supervisor or responsible assistant in union or similar dining unit elsewhere.

Education: High school graduation. College training in dietetics.

Salary: (size of department the determining factor rather than size of building) $1800 to $2500.

LITIGATION OVER BUILDINGS

M. M. CHAMBERS
American Council on Education

MUCH INGENUITY HAS BEEN USED for two decades in financing necessary state university buildings, particularly for housing students and student activities, without state appropriations for capital outlay.

In the late twenties and early thirties many such self liquidating projects were financed by bonds either issued by the institution itself under legislative authority or issued by a nonprofit corporation set up to hold title to the building until its cost was amortized and then transfer it as a gift to the institution.

These practices received judicial approval in the courts of a dozen states. Later in the prewar period, federal loans and grants from the Public Works Administration entered the picture and many more much needed buildings were erected. Now, after the hiatus of war, comes an unprecedented increase in college population, with many veterans bringing wives and children who must be decently housed in proximity to the institution.

While heroic emergency measures of many types are under way, it is worthy of note that the postwar upsurge in college attendance will undoubtedly be permanent, and large permanent additions to institutional plants will accordingly be necessary. Barring the uncertain extent and duration of the current inflation and the perplexities of priorities and the slow and confused revival of production of building materials, it may be assumed that the construction of permanent modern buildings to house students and their dependents, as well as the varied student activities of a much larger college population, will eventually proceed on a large scale.

APARTMENT DORMITORIES

A principle already well established was affirmed anew in Oklahoma in 1945 when the regents of the state university asked judicial approval of a $275,000 issue of "Apartment Dormitory Bonds" issued and sold under authority of a statute approved March 2, 1945, stipulating that "the bonds issued hereunder shall not be an indebtedness of the State of Oklahoma or of the institution for which they are issued or the board of regents thereof but shall be special obligations payable solely out of the revenues to be derived from the operation of the building. . . ." A similar recital appeared on the face of the bonds. The supreme court, taking original jurisdiction of the matter, readily declared that the statute and the transaction were entirely unaffected by the constitutional limitation on indebtedness of state agencies and granted an order approving the bonds.[1]

More recently a generally similar undertaking by the board of regents of Oklahoma Agricultural and Mechanical Colleges has likewise been given the green light by the supreme court of the state.[2]

STUDENT ACTIVITY BUILDINGS

The University of Illinois Foundation is a nonprofit corporation created to hold title to several self liquidating buildings on the campus and stand as debtor until their cost is amortized. This device enables such buildings to be financed without any suggestion of pledging the credit of the state and accomplishes essentially the same result as is reached in Oklahoma and some other states by the enactment of statutes authorizing the institution to issue credit instruments payable solely out of the income to be derived from the operation of the buildings which the borrowed funds are used to erect and equip. The University of Illinois Foundation also has the additional function of encouraging and receiving gifts for educational purposes at the university.

The county tax collector assessed for the year 1942 four buildings to which the foundation held title: the college union building, erected with the aid of a long term federal loan; three men's residence halls with an aggregate capacity of 900 students, erected on a self liquidating plan without a federal loan; the Illini building and the arcade, both of which were acquired in 1941 from the University of Illinois Union (together with mortgage debts, subsequently refinanced).

These buildings housed the great variety of accessory services commonly found at a large university, including dormitories, dining halls, restaurants, bowling alleys, barbershop, bookstore and others. The Illini building had in the basement the offices and plant of the daily student newspaper. The arcade contained a cooperative bookstore, operated by the university, and a barbershop and a restaurant, operated by private concessionaires. All these varied services were largely, though not wholly, limited to the patronage of students and faculty members.

Looking at the foundation solely as an operator in the field of finance and real estate, the tax collector contended that its properties were not properly exempt as devoted to educational uses. The Illinois supreme court declared this argument untenable: "Whatever income may be derived from the four buildings here is used to promote, and is incidental to, the primary purpose, namely, to provide adequate facilities for university purposes—in short, 'a public educational purpose'." Therefore the trial court judgment in favor of the foundation was affirmed. It was not thought necesary to discuss the matter of whether the buildings were in reality owned by the state of Illinois.

Evidently irked by the arguments in behalf of the collector, the court added

[1] Application of Board of Regents of University of Oklahoma, (Okla.), 161 P. 2d 447 (1945).

[2] Application of Board of Regents for Oklahoma Agricultural and Mechanical Colleges, (Okla.), 167 P. 2d 883 (1946).

Retirement Plans . . .

for faculty members should be carefully planned to prevent an embarrassing financial load on either individuals or institution. In the November issue, William H. Cobb describes the steps to take in setting up an adequate program of faculty retirement. This enlightening article tells how to meet the needs of the staff member and, at the same time, not overtax the financial resources of the college or university.

a peroration emphasizing that the presence of the university greatly enhances the value of other property in the local community. "The university brings many benefits and this factor is one underlying the exempt character of its property. These facts should be apparent to taxing officers as well as to other persons."[3]

FRATERNITY HOUSES

In New York it was held in 1945 that two fraternity houses on the campus at Cornell University were taxable, though technically owned by the university, having been built under an agreement whereby the fraternities furnished the money and the university bound itself not to evict them without paying the market value of the houses. The fraternities contracted to pay the taxes in the event any taxes should be assessed and collected. Under New York statutes, said the court, the test of exemption is exclusive ownership and exclusive use for educational purposes, and these must coincide.

The university's ownership of these houses, it was thought, is severely limited, though technically the fraternities have no lien; but the case was decided chiefly on the court's conclusion that fraternity houses are used for purposes distinctly "social" as well as educational, that their lodgers are chosen on a "social basis" and their use is therefore not exclusively educational.

"We hold that these buildings are and are used as private fraternity houses the same as fraternity houses owned by the respective fraternities, either on or off the campus, which are not exempt. Controlling is the fact that the buildings in question are not used exclusively for educational purposes any more than a fraternity house off the campus."[4]

"KICKBACKS" BY CONTRACTORS

Another facet of the unsavory situation prevailing at Louisiana State University prior to 1939 came to light in the federal income tax case of one Caldwell, who was employed by the university as superintendent of building operations.

The case concerned Caldwell's personal income for the years 1935-38, inclusive. During those years his salary ranged from $4500 to $6000, but in 1936 President J. M. Smith agreed to pay him in addition 1 per cent of the cost of buildings erected under his supervision and, in 1938, this additional compensation was raised to 2 per cent, the justification being that the supervision of construction being done by 700 to 800 W.P.A. workers, many of whom were unskilled, was extraordinarily difficult.

The United States Board of Tax Appeals held this additional income taxable but this part of the decision was reversed by the Circuit Court of Appeals, deciding that the transaction was not a "practical embezzlement" of public funds and that it was exempt under the act of Congress of 1939 prohibiting taxation as income for years prior to 1939 of "compensation for personal service as an officer or employe of a state, or any agency or instrumentality thereof," unless pursuant to an assessment made prior to Jan. 1, 1939, and abating assessments later made. It was noted that both Smith and Caldwell were in the penitentiary at the time of the trial and did not testify.

As to sums shown to have been paid to Caldwell by building contractors as illicit "kickbacks," these sums were held taxable as income. "It may be that they were in some cases a fraud on the state for which it may recover and that Caldwell may become entitled in the year of such payment to a deduction, but until then they are his income." Computation of his income tax in accord with these conclusions was ordered and the assessment of a fraud penalty against him was held to have been warranted.[5]

COLLECTIVE BARGAINING

In a controversy with building service employes engaged in the building at 1680 Broadway, New York City, owned by Columbia University and managed on a commission basis by its agent, the Bethlehem Engineering Corporation, the university and its agent were ordered by the New York State Labor Relations Board to bargain collectively with Local B-32, Building Service Employes' Union, of the American Federation of Labor.

The order was affirmed by the trial court but reversed by the Appellate Division and the reversal affirmed by the New York Court of Appeals. It was conceded that the building service workers were employes of the university and the university relied on Section 715 of the State Labor Relations Act, which exempted charitable, educational or religious associations or corporations from its provisions.

The trial court proceeded on the theory that the exemption applied only to employes of the university actually engaged in the discharge of its functions as an educational institution, but the higher courts held that the test is solely the character of the employer and not the nature of the activity.[6]

[3] People ex rel. Goodman, County Collector, *v.* University of Illinois Foundation et al., 388 Ill. 363, 58 N. E. 2d 33, 157 A. L. R. 851 (1944).

[4] Cornell University *v.* Thorne, 184 Misc. 630, 57 N. Y. S. 2d 6 (1945).

[5] Caldwell *v.* Collector of Internal Revenue, (U.S.C.C.A.), 135 F. 2d 488 (1943).

[6] Trustees of Columbia University in the City of New York *v.* Herzog, 269 App. Div. 24, 53 N. Y. S. 2d 617 (1945), reversing Same, 181 Misc. 903, 46 N. Y. S. 2d 130 (1944). Affirmed, 295 N. Y. 605, 64 N. E. 2d 351 (1945).

GYMNASIUM AND ATHLETIC EQUIPMENT CAN BE RECONDITIONED

E. D. MITCHELL
Professor of Physical Education, University of Michigan

EXPERIENCED PURCHASERS KNOW that buying better grades of athletic goods is an economical measure. While the initial cost will be greater, there will be economy in the long run because of greater wearing qualities and the longer service obtained. Furthermore, a good grade of material can be reconditioned more profitably.

Reconditioning equipment is more than ever an important consideration today. War demands depleted the supply of essential raw materials used in the manufacture of athletic equipment. Many directors of athletic and physical education are faced with the problem of determining how to obtain a longer period of service from the equipment they have on hand.

Two courses of action should be followed in order to prolong the useful life of equipment: (1) giving equipment the best of care and (2) reconditioning. A few national business houses specialize in the reconditioning of athletic and gymnasium equipment. Experience has demonstrated that commercial reconditioning is not only satisfactory but also economical provided the material purchased was of superior quality and has received good care.

LEATHER GOODS

If equipment receives proper care, it is more likely that it can be reconditioned economically. This holds true especially for leather goods, which represent one of the biggest cost items in physical education equipment.

The commonest sources of trouble with leather goods are high temperature and excessive moisture. When leather goods become wet, they should be dried at normal room temperature and not be placed near artificial heat. Instead, they should be kept in a cool dry place.

If it happens that these materials tend to dry out excessively, a slight application of neat's-foot oil or light mineral oil, thoroughly rubbed into the leather surfaces, will check this tendency. In applying oil to leather surfaces, it is wise to remember that a little goes a long way. However, regular and periodic oiling of leather goods should be routine.

Soiled leather should be cleaned with saddle soap. No other type of soap or dry cleaning fluid should be used for this purpose. The saddle soap should be applied with a moist cloth until a lather has been worked up on the soiled leather and the dirt is loosened. Then the lather should be wiped off and the leather briskly rubbed with a clean cloth. Leather shoes that are encrusted with mud can also be treated in this manner.

A paste made of oil and graphite applied by brush to the soles of the shoes makes a good protection against wet playing conditions.

Leather shoes should be reconditioned only if they are in fairly good condition. Old shoes rarely can be used for more than one additional year and this may not warrant the cost of reconditioning. Shoes that need a complete rebuilding should be sent to a reliable athletic reconditioner.

The leather coverings of apparatus, such as the buck and side horse, will wear almost indefinitely provided the original covers are given good care and prompt repair. Once these covers are worn beyond repair, a new leather cover may be added.

Proper care of boxing gloves will practically double their period of use. Gloves should be treated regularly with a slight application of vaseline or other light oil. The practice of hanging gloves up and letting them receive air, instead of packing them in a large box or storing them in a large pile, also aids in preserving their life. After constant use, the padding of boxing gloves frequently becomes dislocated and the gloves get out of shape. It is profitable to have such gloves salvaged.

Punching bags must be treated in the same manner as all other leather goods are treated. Periodic application of a light oil and the prompt repair of breaks in the leather are important. The eye of punching bags where the hook is fastened to the leather has a tendency to wear out. A metal ring inserted inside of this eye will serve as a protection against this occurrence. After constant pounding the seams of the bag also begin to give way. These breaks must be repaired promptly. When the bag has reached the stage at which further repair is useless a new leather cover may be ordered separately and the bladder of the old bag inserted.

The practice of the coach doing all his own ball repairing and bladder mending has been practically eliminated owing to the modern construction of inflated balls. It is dubious as to whether the cost of reconditioning basketballs can be justified. Most balls will not last for more than one season of intensive use; this is true also of the bladder. Instead of spending money for their repair; it will be economical to replace them.

A few simple procedures relating to the care of inflated balls will aid in prolonging their longevity. Inflated balls should be stored inflated but not at normal pressure. This is particularly true of last-built or molded balls. They should not be folded or crushed. When inflating a ball with a rubber core valve, always moisten the needle, preferably with glycerin. If the needle is moistened with the mouth, remove the moisture from the needle. A rusty needle will injure the core of the valve. Always use a pressure gauge to ensure correct inflation. Overinflation should be avoided.

Conservation of rubber materials is closely allied with that of leather. Rubber deteriorates rapidly when ex-

posed to heat or to sunlight or if partially covered with grease or oil. Soap and water can be used for cleaning purposes but the rubber should then be carefully wiped dry. Dry cleaning fluids should not be used as they cause rubber to deteriorate.

WEARING APPAREL

Little can be done to recondition gymnasium clothing. However, an important consideration in maintaining wearing apparel in good condition, thus prolonging its usefulness, is proper cleaning.

Woolen materials should always be dry cleaned. Some laundries make exaggerated claims for their ability to wash woolen equipment satisfactorily. These claims can rarely be fulfilled and it is best not to take the risk of having athletic clothing shrunk two to three sizes as a result of having been sent to the laundry.

The repair of woolen goods necessitates expert workmanship. It is important to know that while woolen articles give lengthy service they go to pieces rapidly once they start to deteriorate.

Cotton apparel should be washed regularly. Laundering should occur at least once a week, more frequently if clothes get dirty. Cottons and other materials of vegetable origin can be easily repaired by patching or sewing. Not as extreme care needs be taken in the mending of cottons as is needed in the case of woolens. It is sound practice to place all fabrics and knitted goods in the hands of a reliable athletic reconditioner for cleaning and repair.

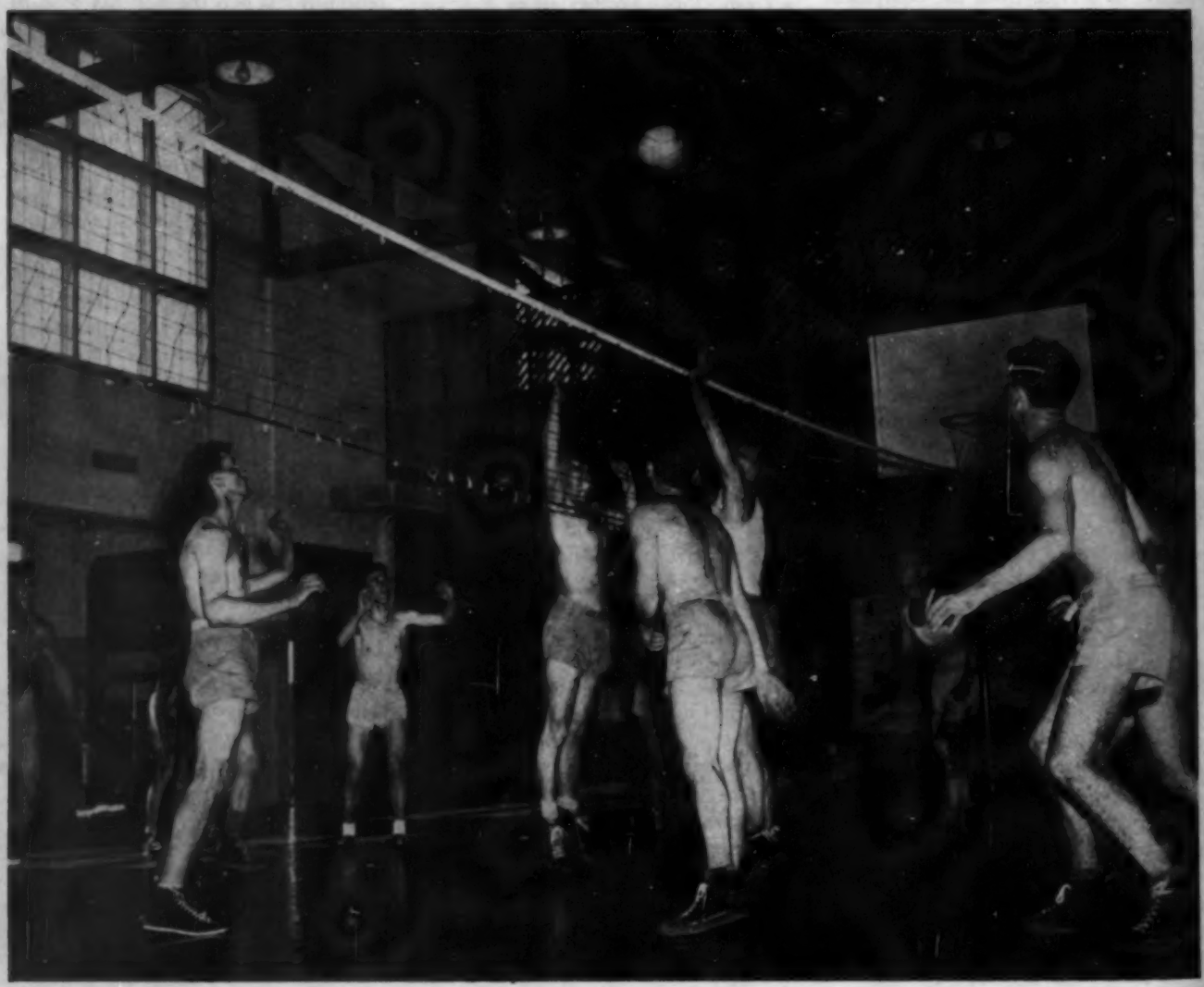
Garments should be carefully cleaned and dried after becoming wet. It is all-important to clean off mud or dirt as soon as possible, before it has a chance to cake in the garment. Lukewarm water should be used in rinsing articles in such condition. Material containing elastic should be washed in the same manner. Uniforms should be stretched while drying. Any tears should be mended immediately. Socks need careful attention as holes in them will cause blisters. Regular laundering of all materials is important in the prevention of skin infections.

RACKETS

The longevity of rackets for tennis, badminton and squash depends to a great extent upon the type of care they receive. A tennis racket is of little use once it has been sprung. To prevent springing, the best remedy is to place the rackets in presses. If presses are not available they should be hung up. Excessive moisture will warp a racket. Consequently, such equipment should always be kept in a cool dry place.

Rackets may be refinished prior to restringing. The head of the racket should be sanded until smooth. Several coats of white shellac are then

Volleyball, badminton and table tennis nets need continual close inspection and quick repair. Shoes and inflated balls require special care.



applied. This tends to fill the porous holes of the wood. Sanding after each application of shellac makes for a smoother surface. Next, four or five coats of a lacquer or varnish are applied. The lacquer will give a better finish.

Three kinds of material are commonly used to restring rackets: nylon, gut and silk. Nylon is moisture repellent and does not require protective or preservative treatments. It is superior to silk in resiliency, resistance to moisture and durability. Gut is inferior to both nylon and silk in durability and in resistance to moisture and fraying. However, gut possesses one superior quality and that is resiliency.

When restringing a racket the foregoing facts should be kept in mind, and the selection of the type of string should be made in accordance with the use to which the racket is to be put.

NETS

Nets for volleyball, badminton and table tennis call for continual close inspection. A broken or loose strand should be repaired quickly before it has a chance to spread. If nets are not taken down after use, the practice of loosening them relieves the tension and keeps them from stretching. This aids in lengthening the life of the net. Another precaution to follow is that of keeping the nets in a dry place. Moisture is a harmful foe of nets that are not waterproofed.

CANVAS AND CLOTH EQUIPMENT

Mats receive considerable wear and tear and usually get comparatively little care. They can profitably be encased in clean washable covers. Not only does this make for longer serviceability but there is less chance of their spreading infection to the individuals performing on them.

Commercial liquid fabric cements can be used to mend torn or ripped mats. When repair is no longer possible, mats may be sent to a reliable reconditioner provided the "insides" are in fairly good condition.

Baseball chest protectors should be deflated when not in use. Canvas bases should be cleaned and then given a coat of canvas paint before being stored away. Shin guards, shoulder pads and other fiber materials should be shellacked to help them retain their shape.

To a canvas shoe, perspiration is the worst enemy, eventually causing

Mat can with profit be encased in washable covers.

the canvas to rot and deteriorate. This can be prevented by reducing the absorbence of moisture. Requiring the participants to wear clean socks daily and to make frequent use of talcum powder aids in that respect.

In a canvas shoe the fungus of athlete's foot has the habit of thriving in the shredded fibers of wool which rub off the sock. At the close of the season or semester this fungus can be easily removed by soaking a paper towel in formaldehyde and putting it in the shoe. Wrap the shoe in newspaper for twenty-four hours. Then, remove the towel and newspaper and expose the shoe to air and sunlight for two days. This precaution is necessary in order to remove the possibility of a formaldehyde burn.

WOODEN MATERIALS

Equipment made of wood is built to last for long periods of time and will so endure when properly handled. Moisture is the worst obstacle. A good coat of spar varnish will aid in keeping the moisture out. However, with equipment such as softball bats care must be taken that they do not become too dry; if this happens, they have a tendency to crack. A small amount of linseed oil will help to prevent such cracking.

As a safety precaution, bats should be frequently retaped. Once a bat has been broken, it loses its original liveliness. If the break is not too extensive, a good tight taping job will provide an extended period of use.

MISCELLANEOUS

In addition to the materials previously discussed, many other articles can be reconditioned. Reconditioned golf balls, commonly called "repaints," can be profitably used for indoor driving practice. Damaged golf balls are remolded and reshaped by many up to date professional golf shops.

If tennis balls are used indoors for practice purposes they will wear out much more rapidly than when used on a soft surface court outdoors. Placing old tennis balls in an oven for a few seconds will tend to give an old ball added life. Care must be taken not to leave the balls in the oven too long or they will "roast."

The elastic ribbon of masks and eyeglass protectors usually wears out or loses its usefulness before the metal or leather parts. This ribbon can be easily replaced with a new one. Good care of the leather of a mask or eyeglass protector provides a longer period of service.

Ping-pong balls sometimes receive small dents. These can be removed by pouring boiling water over them.

CONCLUSION

Certain essentials apply to the whole question of reconditioning gymnasium and athletic equipment. The importance of care in purchasing has been stressed. Also, in order to facilitate replacements, the stocks and sizes of materials should be standardized as much as possible.

Too, the storage of equipment is most important. The equipment room should permit circulation of air. Racks furnish a convenient means of drying damp clothes. Boxes or bins are satisfactory for the storage of balls and bats and also for clothing if the last named is thoroughly dry beforehand. Woolen goods need to be protected from moths by their storage in closets or bins and by use of moth preventive preparations along with weekly spraying with insect chemicals. Articles such as javelins should be hung to prevent warping; bamboo poles should lie flat in a cool place.

The custodian of equipment should use a numbering system for identification and checking out equipment. The matter of taking bats and balls and other unwieldy materials to and from the athletic fields has always been a problem, but today handy homemade push carts are in common use, along with hand carriers to which articles may be attached.

When the time comes for deciding whether or not equipment should be reconditioned, experienced judgment is demanded. The director of physical education should first ascertain the condition of the equipment and then investigate the cost of reconditioning and the period of added use *versus* the cost of new materials.

J. J. WENNER
Assistant Superintendent
of Buildings and Grounds
University of Cincinnati

OUR SYSTEM OF CLEANING

Venetian Blinds

Manual methods of cleaning blinds run into too much money. Once a year a thorough job of cleaning and repairing is in order. Here is a simple mechanical system

THOROUGHLY CLEANING VENETIAN blinds is a slow and tedious process when done by usual hand methods. In large institutions possessing a great number of blinds, frequent and thorough cleaning runs into disproportionate costs and hence is too often neglected.

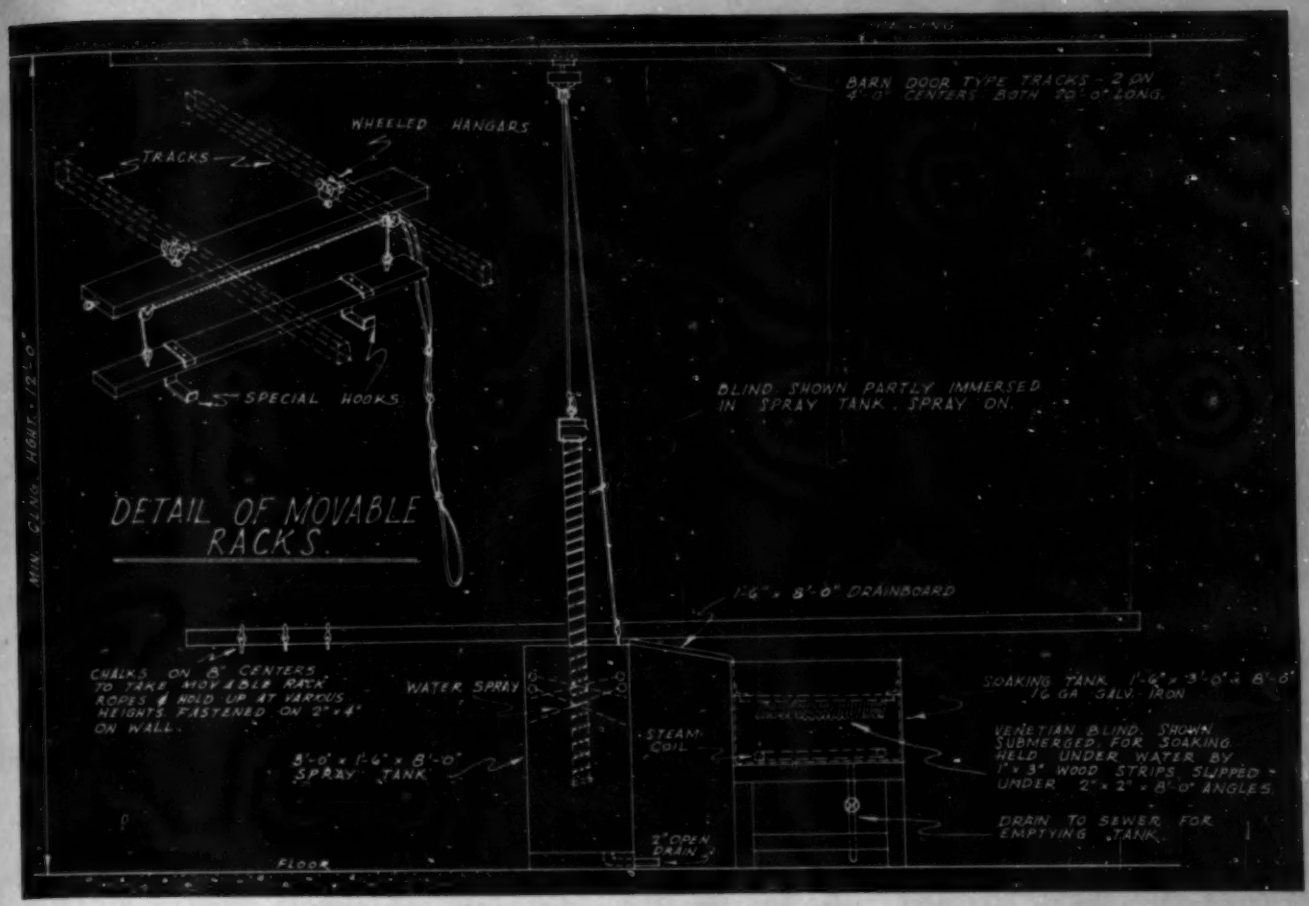
The University of Cincinnati has some 825 venetian blinds, varying in size from 2 feet by 3 feet up to 9½ by 12 feet, distributed throughout 20 buildings. The cleaning system herein described was recently completed for doing a thorough job of cleaning and repairing these blinds on a once-yearly schedule. It is patterned after a similar setup followed successfully by the property maintenance department of the Cincinnati City Hall.

The custodian in charge of each building is notified in advance of the number of blinds to be cleaned each week. He is responsible for taking down the blinds and having them ready for the weekly truck pickup. Each blind is properly tied together and tagged as to room location and building, the tag accompanying the blind throughout the cleaning process. Cleaned blinds are delivered to the buildings and rehung by the janitors.

Dirty blinds are delivered to the central cleaning room and are hung on special movable racks for inspection and a large part of the repair work, it having been found that the elevating feature of the movable racks greatly facilitates repair work. As soon as a blind is hung on a rack, its tag is tied to the rope controlling the rack and stays there until the blind is finally repaired, cleaned and removed from the rack. This simple foolproof system eliminates all possibilities of mixups.

After inspection and repair, blinds are ready for cleaning. A two man team pulls the rack, with the blind hanging full open, into position over a spray tank. The rack and blind are lowered into the spray slowly and loose dirt is washed off. Raising and lowering the blind several times through the hot water spray prepares the blind for soaking.

The rack and attached blind are next moved into position over a soaking tank and the blind is lowered into


BARN DOOR TYPE TRACKS - 2 ON 4'-0" CENTERS BOTH 20'-0" LONG.
WHEELED HANGARS
TRACKS
SPECIAL HOOKS
DETAIL OF MOVABLE RACKS
BLIND SHOWN PARTLY IMMERSED IN SPRAY TANK. SPRAY ON.
1'-6" x 8'-0" DRAINBOARD
CHALKS ON 8" CENTERS TO TAKE MOVABLE RACK ROPES & HOLD UP AT VARIOUS HEIGHTS. FASTENED ON 2" x 4" ON WALL.
WATER SPRAY
STEAM COIL
SOAKING TANK 1'-6" x 3'-0" x 8'-6" 16 GA. GALV. IRON
VENETIAN BLIND SHOWN SUBMERGED FOR SOAKING. HELD UNDER WATER BY 1" x 3" WOOD STRIPS SLIPPED UNDER 2" x 2" x 8'-0" ANGLES.
3'-0" x 1'-6" x 8'-0" SPRAY TANK
DRAIN TO SEWER FOR EMPTYING TANK.
2" OPEN DRAIN
FLOOR

Details of venetian blind cleaning equipment used at Cincinnati.

a hot water cleaning solution. Wood cross bars are slipped into position under the angles fastened to the soaking tank in such a manner as to hold the blind completely immersed in the solution. The blind is allowed to soak for exactly four minutes in the solution which is maintained at 135°F. It is then removed from the soaking tank, placed in position over a drain board and allowed to drain. The blind is again positioned over the spray tank and lowered and raised several times through the water spray.

After excess water has drained off, the blind and rack are removed to one end of the rails overhead and the blind is allowed to hang stretched out until dry. Drying time varies from three to eight hours, depending upon atmospheric conditions.

Total washing time from loading the blind to the beginning of drying time is about ten minutes when two men are employed. Extremely dirty blinds, or waxed blinds, must be sponged off by hand while the blinds are in the soaking tank; sponging takes an additional five to fifteen minutes for two men. By allowing blinds to dry stretched out, tape and cord shrinkage is reduced to less than 2 per cent on the first washing and to practically nothing on the second washing. Warped slats straighten themselves out when dried in this manner.

The spray and soaking tanks are made of 16 gauge galvanized iron of the dimensions and shape shown in the sketch. Four ½ inch galvanized iron pipes, drilled with 1/16 inch holes on 2 inch centers, are so arranged in the spray tank as to give a double heavy cross spray on the blinds. City water pressure of 70 pounds per square inch has been found sufficient for this purpose. The spray is left on only while blinds are actually in the tank. A 2 inch open drain line carries off dirt and water to a nearby sewer.

The soaking tank is provided with a ¾ inch by 12 foot galvanized iron pipe steam coil for maintaining the cleaning solution (about 150 gallons) at 135°F. Steam at 15 pounds per square inch pressure will raise the cleaning solution from room temperature to operating temperature in ten minutes. Control of water temperature is by a manually operated steam valve. A ½ inch line connected to the sewer is used for emptying the dirty cleaning solution. This is necessary for every 35 to 40 blinds cleaned.

The drain board connects the spray and soaking tanks and is so sloped as to lead drip water back into the soaking tank, thus maintaining the soaking tank water at a fairly constant level.

The movable racks, 12 in number, are constructed as shown in the sketch and are arranged with pulleys and ropes so they can be raised or lowered and moved along the overhead rails at will. Special ⅛ inch by 1 inch iron hooks are used for fastening the top rail of the blind onto the movable rack. Movement of the rack and attached blind horizontally is accomplished by one man pulling on the rope at the left side and the other man pulling on the rack with a window pole through a screw eye on the right side.

The cleaning solution used in the soaking tank consists of from 10 to 20 parts of water to one part of liquid all-purpose soapless cleaner, depending upon the concentration of the cleaner purchased. Several such cleaners have recently been introduced on the market. As the workmen gain experience, they can add liquid cleaner from time to time to bring the solution back to its original strength.

POSSIBILITIES IN ALUMNI RELATIONS

CHARLES E. WIDMAYER
Editor, Dartmouth Alumni Magazine

THE CONCEPTION OF THE OLD GRAD, unfortunately encouraged in the public mind by movies, magazine stories and cartoons, is strictly the residue of a bygone day when alumni were given neither the encouragement nor the opportunity to have anything but a tenuous tie with an institution once they had been graduated. On campuses where this view still prevails there must be something radically wrong—and not with the alumni.

To the great advantage of our institutions of higher learning, the alumni are taking an increasingly active and intelligent part in the educational efforts of their alma maters. A rounded picture of the modern college must give great weight to the alumni as an integral and continuing part of the institution, no less important than the faculty, the administration or the student body.

APPRECIATION OF ASSETS

A college, after all, is essentially a community of men working together toward a common goal. Its greatest assets are living men, not buildings or endowment funds.

This being so, a college would be complacent and shortsighted indeed not to seek the support of its alumni when they number, as they do, some of the wisest, most capable and most respected men upon whom it has any right to call. The surprising thing is that it has taken the colleges and universities so long to arrive at a full appreciation of the tremendous assets —and they are not only material ones —inherent in their alumni bodies and to take the organizational steps necessary to turn these assets to good use.

College loyalty has always existed, but widespread efforts to create or perfect alumni organizations are a comparatively modern development. Colleges and universities throughout the country are busy at it today. Doubtless there are a few college administrators who look askance at such efforts and a larger number of alumni who resent them, but sound organization is the only way in which alumni strength can be made effective in the life of an institution. Too many persons think only in terms of alumni funds and other money raising campaigns when alumni relations are mentioned, when as a matter of fact this financial support is in its most desirable place when it is the freewill by-product of a deeper understanding between college and alumnus.

There is nothing one way about this relationship; organization and constant channels of communication must exist as much for the college to fulfill its intellectual and spiritual obligations to the alumni as they must exist for the alumni to fulfill their obligations to the college, which are perhaps more apparent from a material side.

The full membership in the college family today accorded the alumnus becomes increasingly an intellectual as well as a social and spiritual association; even beyond this, the college cannot rightly ask for wholehearted support unless it, in turn, gives its alumni the fullest possible knowledge concerning its educational objectives, administrative policies and faculty and student achievements. Alumni relations are a two way proposition.

When Dr. William Jewett Tucker became president of Dartmouth in 1893 he brought to the field of college administration a modern concept of the rôle that the alumni should play in the life of the college. Along with this concept he had what was amazing for a minister of the gospel, a firm grasp of such organization as characterizes our leading industrial firms today. Although a general alumni group had been founded in the year 1855 and although Dartmouth men had in 1863 established the first college alumni club in New York, the real development of Dartmouth's present highly perfected alumni organization began with President Tucker, to be carried to its fullest development under Dr. Ernest Martin Hopkins, 1916 to 1945.

Dartmouth Night, started by Dr. Tucker in 1895, has served during this whole period to symbolize the lasting spiritual ties between the college and her sons. Alumni influence on the board of trustees quickly became dominant and is now complete; the class secretaries' association and the *Dartmouth Alumni Magazine,* under its sponsorship, were founded in 1905; the Tucker Loan Fund appeared in 1906; the Dartmouth Alumni Council was established in 1913, and two years later the Alumni Fund was launched.

During these fifty years alumni clubs throughout the country were growing to their present total of 80, with a few more abroad, and as the most recent steps in alumni organization, associations of class treasurers and class alumni fund agents, similar to the association of class and club secretaries, were established in 1941.

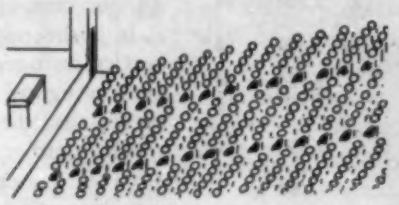
The growth of class memorial funds, to be presented to the college at the time of the 25th reunion, is an important current development; chairmen of these class projects are drawing closer to an organized group.

Because of the pervading conviction that the alumni are an integral and invaluable part of the college and because of the efforts of the last fifty years to translate this conception into an all-embracing organization, Dartmouth has become an "alumni college" to an extent that is perhaps unequaled by any other institution. One of its greatest distinctions is an alumni organization that is frequently studied by other institutions planning to develop this side of their school activities. It is difficult to estimate just how many Dartmouth alumni are actively engaged in some official work on behalf of the college, but it is probably safe to say that one out of every 10 is participating.

When asked once if Dartmouth used field agents to interest prospective students in the college, President Hopkins astounded his questioner by replying, "Yes, we have 20,000 of them," and then went on to explain

how the whole alumni body, in its loyalty, functions in this capacity. The phrase "the Dartmouth family" describes succinctly the essential relationship that has come into being.

While this brief article is trying to emphasize the need for organization in college-alumni relations and to touch upon some of the ways in which one college has gone about it, it ought to be pointed out that in Dartmouth's case the job has been greatly eased by the rather uncommon loyalty to the college that Dartmouth men acquire, almost by osmosis, from their four year experience on comparatively isolated Hanover Plain.



It ought also to be added that no one program of alumni organization provides all the answers for all colleges; there are too many individual factors to be considered and the references to Dartmouth are by way of illustration only.

The key unit in Dartmouth's whole alumni setup, for example, is the class, but it would be foolish to insist upon this for every alumni program. The regional clubs have grown rapidly and are becoming increasingly vital in the admissions and financial aid programs through the regional scholarships and student loan funds that they sponsor, but they are not as all-inclusive as are the classes through which the college's whole constituency can be reached naturally and effectively by planned organization.

Great effort has gone into strengthening the class organizations; a further reason for this in Dartmouth's case is that alumni loyalty has traditionally been given to the class, next to the college itself. No distinction whatever is made between the graduate and nongraduate within the class, especially in the use of the class numeral after a man's name, and this is important when the goal is inclusiveness.

One tangible result of Dartmouth's whole alumni program, but particularly of the college's effort to perfect the class organizations, is the phenomenal showing of the annual Alumni Fund, which last year raised $337,000 from 13,348 contributors and which this year will approximate $400,000. Although sponsored by the Alumni Council, the regionally elected "senate" in Dartmouth alumni affairs, operation of the fund has become increasingly decentralized in the hands of the class agents and their class organizations, and the steam behind the annual campaign now comes almost entirely from the 70 or more active classes.

The Alumni Fund is a story of organization in itself and the importance of this "living endowment" in the annual financing of the college cannot be overstated. Suffice it to say here that the whole development of this college-alumni relationship has been based on the conviction that when there exist among the alumni body the feeling and the fact of really belonging, of really being a vital and continuing part of the college, of really, in a sense, owning it, then the financial sinews will inevitably follow as a result.

Dollars are important to the college and it would be less than honest to say that they do not bulk large in the general alumni program, but they have greatest value to the college when they are the freewill by-product of pride in the institution and understanding of its objectives as their inspiration.

There is the further important fact that where a man has freely given his financial support, there his interest will be genuine and alive. For that reason, among others, 10 alumni fund gifts of $5 each are incalculably more valuable to the college than one gift of $50.

A great deal could be said also about the need for a full and free flow of information between the college and its alumni. The alumni magazine is, of course, the greatest single vehicle for this communication and most colleges recognize it as such.

The *Dartmouth Alumni Magazine* since its founding in 1905 has enjoyed the unstinted support of the college administration and it has grown into one of the largest and best of alumni publications, winning the American Alumni Council's grand national award under the editorship of Sidney C. Hayward a few years ago.

Publishing a good magazine is one thing and getting it into the hands of the alumni is another. To solve this problem Dartmouth again resorted to its excellent class organizations and now operates under a class group subscription plan whereby the magazine reaches about 17,000 of its 21,000 alumni and yet fully pays its own way.

The central idea of the plan is to have the class subscribe as a whole, thereby getting a greatly reduced group rate, and to pay one bill through the class treasury. The advantages of this full paid circulation to the magazine, the class and ultimately to the college are obvious, but such a plan to be achieved requires an unusually high degree of alumni organization.

Other lines of communication between the college and the alumni and within the classes, clubs and associations also exist. Special within-the-family bulletins are sent periodically to the key alumni workers, but the alumni magazine remains as the first line of communication and a major agent of close relations, and too much attention to its substance or to its wide and regular distribution cannot be given.

NEXT, FACULTY AND STUDENTS

Within the space of this brief article one can only touch upon some of the tangibles and intangibles that enter into an effective program of alumni relations. A central consideration everywhere, however, is the necessity of sound and germane organization if the assets within the alumni body are to be fully turned to the educational, financial and spiritual good of the college. Great as have been the accomplishments in this field, there is no single institution that can feel that it has come close to exhausting the expanding possibilities of its alumni relations.

Up to now these relations have been closest with the administration and fellow alumni; much remains to be done in the promotion of faculty-alumni and student-alumni relations. The alumnus is still part of an intellectual fellowship as well as a social and spiritual fellowship, and who can foretell what will develop from the colleges' growing awareness of an educational obligation to their alumni as well as to their undergraduates?

The times are certainly out of joint for colleges and universities as well as for the world at large, but confident and lucky indeed is the institution that knows that it has the full strength and support of its alumni behind it. If that support is inert, dispersed and inarticulate, call in the organizers; but don't forget that college-alumni relations are a two way proposition.

ACCOUNTING IN THE KITCHEN

TRUDY TYSON
Teachers College, Columbia University

THE MANAGER IN CHARGE OF A secondary school or college food service unit has two major responsibilities: One is closely related to the well-being of the student body and faculty through the service of adequate and palatable meals; the other is the financial aspect of food service operation related to efficient management. In this article, only the financial side of the operation will be discussed.

The manager of a business is expected to be well acquainted with modern business procedures and able to interpret the accounting reports, but is this true of a food service director? On the one side, do administrators of institutions cooperate with their dietitians by working with them on the financial aspect of their responsibilities? On the other, are the dietitians trained to handle the various phases of control?

In most central accounting systems, a series of accounts is set up for each department and in the proper accounts are entered all the financial activities of those departments. The record of transactions of a department is usually made for the purpose of having a historical accounting for the whole organization and its parts. Such a record should be used by the department head for the purpose of control. In order to fulfill such a purpose, monthly statements need to be submitted to each department head either with an interpretation or without for those most vitally responsible to interpret.

Because it is usually not the custom for central accounting offices to submit this information monthly, the manager in charge of food service needs to provide sufficient accounting records to draw up his or her own operating statement. The statements in table 1 are the results of records kept within a given department with the percentage interpretation.

In the type of organization indicated by table 1, the student body and faculty pay for their meals as they pass a checker and cashier, and a daily record of all meals sold is kept. Other food sales, such as catering at parties or special functions, are added to the regular meal receipts and the gross total of these sales represents the total income from food sales.

Table 1—Statement of Operation for Month Ending May 31, 1946

Total Income From Food Sales	$15,000	100%
Food Cost	7,200	48
Gross Profit	7,800	52
Labor Cost	5,700	38
Other Expenses	1,950	13
Total Expenses	7,650	51
Net Profit	150	1

For a better comparison between several periods the dollar amounts are reduced to percentage figures. The total income from food sales is equal to 100 per cent, or the base, and each period all expenses are divided by the income and expressed in terms of the rate per cent. Thus the food cost of $7200 represents an expenditure equal to 48 per cent of the food sales. Labor cost amounts to $5700 and equals 38 per cent of the income; other expenses account for $1950, or 13 per cent of the total income.

It is the responsibility of the food service manager to compare these percentage figures from month to month to see that they do not fluctuate too much in either direction from the desired or prescribed ones of the administration's budget.

Should the department operate on a budget with no sales expressed or if the income is not allotted to the department as in some college residence halls, the operating statement is drawn up monthly by the department as is indicated in table 2.

Table 2—Operating Statement for May 1946

Total meals served: 70,000

Item	Cost	Per Meal
Food	$22,400	$0.32
Labor	18,200	0.26
Other Expenses	2,800	0.04
Total	$43,400	0.62

Table 3—Daily Food Cost Report for May 13, 1946

Income for Day	$1300.86	Food Cost Per Cent for Day	47.7
Food Cost for Day	621.01	Average Food Cost Per Cent	49.7

Total	Item	Kitchen	Bakeshop	Salads	Counter
$ 92.79	Meats, top round	$ 97.79			
40.10	Poultry, fowl	40.10			
	Fish				
	Shell Fish				
15.62	Fats and Oil	0.92		$ 13.75	$ 0.95
33.20	Eggs, fresh and frozen	8.58	$ 20.22		4.40
121.31	Milk and Milk Products	6.90	6.90		107.51
5.75	Cheese	3.00		2.75	
45.00	Ice Cream				45.00
112.90	Vegetables, Veg. Juices, fresh, frozen	88.94		21.60	2.36
14.08	canned	14.08			
	dried				
33.26	Fruits, Fruit Juices, fresh, frozen	10.06	7.49	13.56	2.15
20.87	canned		1.89	7.10	11.88
11.34	dried, dehydrated		11.34		
45.33	Groceries	13.53	10.64	17.76	3.40
1.48	Sugar, 14 lbs.				1.48
14.40	Coffee and Tea				14.40
13.58	Bread and Rolls				13.58
$621.01		$278.90	$ 58.48	$ 76.52	$207.11

Point Allotment: 1 lb. sugar—1 point

Used Today	Used to Date	Allowance Today	Allowance to Date
14	1422	25	1525

In the type of setup outlined in table 2, the administration allocates out of the payments for room and board by the student an amount to cover the cost of meals served. The allowance per student is reduced to the unit cost per meal served. It is then prorated to cover food cost, labor cost and other expenses in connection with food service. The total amount spent for food per month as shown by the departmental records is divided by the number of meals served and should approximate the allowance set by the administration. The labor cost and other expenses are reduced to the per meal basis and also compared with the suggested allowances.

BASIS FOR BUDGET

It is from these statements that the budget for the following year is built.

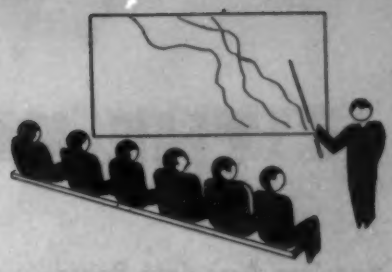
A daily control of food cost is essential for giving student or customer the greatest value regularly for the money spent. This method of control gives the manager a guiding figure for the cost of food in relation to the sales for the day. Table 3 illustrates a daily cost summary of an operation with four preparation units, namely, the kitchen with range and steam kettle service, the bakeshop, the salad preparation unit and the counter or pantry.

The information for the daily summary is obtained from the requisitions from each unit of operation after the food is issued from the storeroom or refrigerators and each item priced, extended and totaled. The food is classified according to kind so that each day the amount spent may be compared with the same classification for the previous days.

The totals for each operating unit, kitchen, bakeshop, salad preparation and counter and for each classification are shown at the bottom and left of the report. The grand total found by adding either columns or rows shows the total cost of food served that day.

For simpler comparison of different days' food costs, the percentage method is used. The average daily food cost per cent is important because it indicates the general trend of the food cost over the whole period and takes into consideration the fluctuation of the individual daily food costs. This report is the same if there are no sales except that the cost is interpreted in terms of the unit cost: the meal served.

HOW TO CONDUCT A CONFERENCE



THERE ARE MANY OCCASIONS ON campus when a change in policy or the acquisition of new equipment necessitates a conference or group meeting to outline problems and technics involved. An administrative officer must master the technic of leading a conference if he is to handle his job expertly as an executive.

A conference is not a lecture but is an organized discussion, and it will not be successful if it is entered into without preparation.

John A. Beaumont, supervisor of business education for Illinois, gave a demonstration of how to lead a conference or an employes' meeting at the recent convention of the National Restaurant Association. Some of the points Mr. Beaumont made follow:

1. Have a specific purpose for calling a conference and be sure that at the end of the meeting the group knows exactly what it was called together for.

2. Keep the group as homogeneous as possible. The presence of more than 15 persons makes the conference difficult to handle; from 10 to 15 employes is an ideal size.

3. Set up a comfortable place for the conference. A big blackboard is a great help. Employes should be provided with pads and pencils. Don't expect those in attendance to visualize points that are made. Put them down on the blackboard. If it is mechanical equipment that is being discussed, have the equipment brought into the conference room or take the group to the equipment.

4. Organize the material that you expect to present at the meeting. After putting the material in the logical order, keep to that order by the use of notes. Don't proceed too rapidly. In fact, the conference leader must progress at the rate of the slowest learner.

5. Prepare the group mentally, physically and emotionally to learn. Don't hold a conference at the end of the day when everyone is thoroughly tired out.

LET EACH EMPLOYE CONTRIBUTE

6. Lead out each employe so that he contributes to the discussion. Put the major problem before the group and have volunteers suggest all the angles that must be covered to attain the goal. (This is the technic of the progressive schools.) Write the various points on the blackboard.

7. Draw the employes out by means of questions—how, when and why. Don't make statements yourself. As an employe answers a question or makes a suggestion, acknowledge his contribution; don't shut him off. If his remarks are not to the point, record them and try to bring them to the point later.

8. If two members of the group become involved in a hot argument, toss the argument to some neutral person.

9. Use visual aids in developing the idea you are trying to put across. Make a demonstration. Perhaps you can find a filmstrip or a movie that will help in the teaching process.

TESTS KEEP SUBJECT ALIVE

10. Give some sort of an assignment or a test at the end that will show just what each employe got out of the conference and that will keep all minds active in regard to the subject matter covered. If it is a mechanical operation, let each person demonstrate that he has caught the principle of the operation. If it is a mental concept that is sought, ask each person to hand you the next day a list of his ideas on the subject.

The conference technic is not as simple as the lecture technic. In it the leader must be himself. Without the group's interest he cannot get attention and without attention the members of the group cannot learn. By letting the group participate in the discussion, the learning process is more effective.

THE ROVING REPORTER

Organizes Associate Board

Something new in the trustee line is the "success board" now being organized by Russell Sage College. The "success board" title is a newspaper term; the new body will be known as an associate board of trustees and will be affiliated actively with the regular board, the college officers and the student body.

President Helen McKinstry of the college expects the women on the new board to report on current trends in the fields of business, merchandising, science, radio, journalism, home economics, welfare work and the allied fields which they represent.

The associate board members will come in direct contact with undergraduates through a two day institute tentatively called "Women at Work," which will precede or follow the board meeting. Miss McKinstry thinks that their advice will enable the college administrators to keep in closer touch with business and professional developments affecting women employes and women executives.

"The fact that so many of our new associates are still young women will certainly prove no handicap in interesting the modern college girls in the program," the president declares.

"Another phase of the program is that it gives us the opportunity of paying sincere tribute to a number of women who have plunged into positions and achieved high renown, personal and professional, without the advantages of stylized higher education. They are definitely educated women but many have actually bemoaned the lack of a college degree."

Map Sales Aid Scholarships

On the theory that it is better to give than to receive, especially when the student is assured of a return, the University of Georgia has found a new source of revenue for its student scholarship fund.

During registration for the fall quarter, maps of the university campus and the city of Athens were sold for 25 cents and all income above printing costs went into the scholarship fund. Designed to fit into the student's notebook, the maps show the location of all buildings on the campus and downtown business establishments purchasing space.

Ken DeRenne, Athens journalism student, planned the project and Alpha Phi Omega, national service fraternity, headed by Hoyt Simpkins, Griffin, acted as distributive agent. The fund is administered through the University of Georgia Foundation.

Students Commute by Air

A plane and a pasture constitute the answer to the housing shortage, two freshmen at Southwestern Louisiana Institute will tell you. James Russell Oliver, former army air forces pilot, and his 18 year old bride board their bright yellow two-seater plane in a former pasture on the senior Oliver's farm near Egan, La. Thirty air-miles later, they land at Girard Field on the outskirts of Lafayette and take a commuter bus to the college.

Ballroom Cafeteria

Waltzing about steam tables to the music of silver tinkling against glasses won the attention of students arriving on the University of Kansas campus this fall. The reason for the attraction, however, was not entirely social.

With an increased enrollment, the university was faced with an additional problem that was not an intellectual one: Where would the students eat? The ballroom in the Memorial Union building was the answer. Installation of double counter cafeteria service has doubled the union's food serving capacity, according to Professor Henry Werner, dean of student affairs. The original cafeteria and soda fountain accommodates a peak load of 1500 meals; the ballroom cafeteria has an equal capacity.

To relieve the pressure on the preparation units in the main kitchen, installation of an employes' dining room and auxiliary salad and dessert units was planned. A large steam table simplifies the transfer and storage of hot food from the kitchen two floors below.

Family Medical Service

The addition of student veterans' wives and children to the American campus has brought in its wake new responsibilities for college administrators. The University of Georgia has initiated the following regulations relative to medical care for veteran students and their wives:

1. University physicians will visit veterans' wives for the same fee as that charged students.
2. Wives of enrolled veterans may have free outpatient service.
3. If hospitalized in the college infirmary, wives will pay $4 a day for room, meals and physicians' fees, which is approximately half the cost of a regular hospital.
4. These welfare services do not include dentistry and major surgery.
5. Children of student veterans will not be admitted except in case of emergency.

Easy Reading

After many years, a major tragedy in popular education is being solved. The tragedy: failure to present important findings of scientific research so that groups most concerned can understand and use them. The solution: Research Interpretation Service, a group on the campus of Alabama Polytechnic Institute, Auburn, Ala.

The R.I.S., the only one of its kind known to exist on a college campus, works with the written materials of any public agency or institution. It rates the writing, determines what makes it hard to read, rewrites at a lower reading level and suggests new methods of presentation.

The Flesch Formula is the yardstick used by the Research Interpretation Service to measure the readability of an article. Developed by Dr. Rudolph Flesch of Columbia University, it is based on the principle that easy-to-read writing must consist of (1) short sentences, not over 17 words, (2) simple words with few prefixes and suffixes, and (3) personal references.

One Alabama farmer remarked: "That's the kind of readin' we like—makes learnin' fun!"

QUESTIONS AND ANSWERS

Financing Dormitories

Question: Should we build dormitories as an income producing investment or as a self-liquidating enterprise only?—S.E.R., N. H.

ANSWER: In state institutions the enterprise should be undertaken not because of potential profits that might be realized but rather because of educational value with the project intended to be self-liquidating. In order that the project be self-liquidating over the life of the building, it follows that at certain times, as at present, a substantial profit will need to be earned to offset losses that will inevitably occur during depressions.

From the standpoint of a private institution, I have no opinion as to whether the project should be considered as self-liquidating or undertaken to produce a profit.

In both state and private institutions, in my opinion, funds required to initiate the project ought not to be advanced from trust or endowment funds unless there are unusually meritorious and peculiar conditions that would avoid dangers which might exist where a governing body lent trust funds to its current funds operations. —H. A. BORK.

Campus Traffic

Question: How do you provide for traffic safety on your campus and in what way have you solved parking problems?—D.E.S., N. Y.

ANSWER: Because of increased enrollment and a need to eliminate traffic hazards resulting from parking allowed on a few streets on the campus, the University of Washington initiated a new system of parking in July. The board of regents placed the control of traffic and parking under a traffic control board composed of one student, one faculty member and one other university employe. Enforcement remains under the superintendent of buildings and grounds and the campus marshal.

On the central campus, areas known as faculty areas are available to park the cars of about 700 faculty, employes and visitors; bordering on the north and south are areas for about 550 student cars. Students may not drive on the campus between these parking areas. Parking permit plates are required on front and rear of all vehicles except visitors' cars. These plates bear a letter from A to X, indicating the faculty area assigned, or double letters AA to HH, indicating the student area assigned.

Anyone who must park at various places in line of duty is issued a special permit plate bearing the letters Z or ZZ. Visitors' permit cards for temporary use are issued by the campus marshal and entitle the visitor to park in spaces so marked in the faculty areas. These spaces also serve the Z permit holders.

Anyone wishing parking space on the campus applies to the traffic control board for a permit. If his application is approved, then he deposits $5 with the comptroller and presents his receipt to the campus marshal who issues his permit plates showing where he may park. To date no faculty or other employe has been refused a permit for lack of available space, but the large enrollment expected this fall may change this picture. The students are not so fortunate and, with an expected 18,000, only a small percentage of students will have permits. Unlimited parking area for which no permit is needed, however, is available in the vicinity of the stadium. This area must care for the majority of the students.

Priority for student permits is given the physically handicapped, those working part time and those carrying passengers.

Traffic violations are heard and penalties determined by the campus judge who is a member of the law faculty. Permits may be canceled and the deposits forfeited at the discretion of either judge or traffic control board. —FRED H. ROUNDS.

If you have a question on business or departmental administration that you would like to have answered, send your query to COLLEGE and UNIVERSITY BUSINESS, 919 North Michigan Avenue, Chicago 11, Ill. Questions will be forwarded to leaders in appropriate college and university fields for authoritative replies. Answers will be published in forthcoming issues. No answers will be handled through correspondence.

Merchandise for the Bookstore

Question: To what extent should a college business manager control the selection of merchandise to be sold in the bookstore?—M.J.W., Fla.

ANSWER 1: The college business manager is seldom a trained merchandiser. Granting that the school has hired a competent manager for its store, it makes only for delay and lack of confidence to oversupervise the bookstore manager. One can readily see the necessity of supervision, however, over student-managed stores.

Business managers should be consulted on major purchases of new merchandise. In the final analysis, supervision depends upon the mutual confidence of the parties concerned.—RUSSELL REYNOLDS.

ANSWER 2: The college-owned and college-operated bookstore exists in order to guarantee for students an adequate and convenient supply of books and sundries at the time they are needed. A capable college bookstore manager not only possesses some merchandising ability but recognizes that the bookstore is first of all a service unit of a more important enterprise.

It is the prerogative of the business manager to determine the broad classes of merchandise to be stocked or to be omitted from stock; it is the responsibility of the store manager to control selection within these policy limits. Because of its nature and purpose a college bookstore, like other auxiliary departments, should be operated by a manager working under the supervision of the business manager and responsible to him for results. Within the limits of policy the store manager should not be hampered in the selection of merchandise requisite for the students' needs. — GERALD D. HENDERSON.

NEWS

Record Numbers Enroll in Colleges . . . Adult Education Must Save World: Hutchins . . . Public Support for Better Prepared Teachers Is Plea of N.E.A. . . . Attorney General Rules on Surplus Real Property . . . Personnel Retirement Plans Expand

Colleges Open With Enrollment Records Smashed

Had the sky been the limit, American colleges and universities could have increased their normal enrollments by such astounding percentages as 500 or 1000 when classes opened.

But students can't sleep under the open sky in all weather nor is the outdoor classroom or laboratory practical even in sunny California, so the lid had to be clamped on registration. Disappointed students were told that they could enter the college or university of their first, third or possibly fourth choice by September 1947 or 1948. Faculty shortages, too, were a deterrent to enrollment expansion.

As it was, in some cases enrollments vaulted as high as 300 per cent. Emergency campuses sprang up within driving distance of the parent institution in many cases, although the University of Illinois opened branches on Navy Pier, Chicago, and at Galesburg. New York State opened a series of emergency colleges, three of them known as the Associated Colleges of Upper New York.

Some of the reported enrollments for the new semester or quarter are New York University, 37,000; Columbia, 28,000; University of Illinois, 28,000; University of Wisconsin, 24,000; Rutgers, 20,000; Syracuse, 13,000; Harvard, 11,700; De Paul, 11,125; Northwestern, 8850; Yale, 8500; Illinois Institute of Technology, 7000; Alabama Polytechnic Institute, 5350; Princeton, 4000.

Seeks Public Support for Better Prepared Teachers

Much more money must be appropriated to teachers' colleges, liberal arts colleges and schools of education for teacher preparation purposes than is now expended, the N.E.A.'s Commission on Teacher Education and Professional Standards told the press and radio at its first meeting in Washington, D. C., last month.

Teachers' college enrollments are failing to recover sufficiently fast from a wartime decline of 50 per cent. These colleges are being pressed into service this year for education of students not planning to teach.

At present only half the normal proportion of G.I. students is planning to teach and the profession needs many more men.

The commission also told the press and radio men that there is developing an acute shortage in college and university personnel because of an estimated enrollment of 2,000,000 college students this year in comparison with the prewar figure of 1,400,000 students.

From three to seven years will be required for this year's freshmen, now entering teacher preparation in most insufficient numbers, to be ready to accept positions in colleges and universities.

Colleges and universities, too, must cease, as soon as it is possible, to admit for preparation and to graduate into the teaching profession persons with low ability. To attract far more students of high ability into teaching, adequate salaries and modern school programs must be provided.

Higher education is represented on the Commission on Teacher Education and Professional Standards by Dean W. E. Peik of the University of Minnesota College of Education, chairman; Ralph McDonald of the N.E.A., executive secretary; President Paul V. Sangren of Western Michigan College of Education, and C. O. Williams, director of teacher placement, Pennsylvania State College.

Junior Colleges Enroll Record Number

The 630 junior colleges of the country have enlarged their facilities and their staffs to accommodate enrollment increases of anywhere from 400 per cent to 2000 per cent.

As one example, Riverside Junior College at Riverside, Calif., which had 183 students in 1946-47, admitted 1600 students this fall, a 774 per cent increase.

The 355,000 students who are entering junior college this fall are just short of half as many as were enrolled in all institutions of higher education in 1943-44, as enumerated in the recent Snyder report to President Truman.

Approximately 153,000 veterans are included in the junior college fall registration and it is estimated that these schools can still admit about 33,000 more students. States which can enroll additional students are Kansas, Washington and Kentucky, according to a report from the American Association of Junior Colleges.

Of the 45 new junior colleges in operation this fall, 21 are along the eastern seaboard. Thirteen of these are publicly controlled institutions; eight are privately controlled. This is significant as up until now this section has had only 17 publicly controlled junior colleges as against 242 for the rest of the country.

List of Decontrolled Commodities Expected Soon

Suspended from price control on September 11 and 12 were the following school supply items: fabricated metal parts for looseleaf binders and covers; fountain pens and mechanical pencils; hand operated sprayers and dusters for spreading insecticides, as

well as photographic equipment.

O.P.A. is expected to issue a complete list of decontrolled commodities in early October and will add supplements every two weeks.

Reconversion pricing orders on wood commercial furniture and on venetian blinds changed in late September.

Southwestern Has New Satellite

The 300 students enrolled at Daniel Baker College, Brownwood, Tex., this fall will pursue a unified curriculum with that of Southwestern University, Georgetown, Tex. Two other satellite colleges operated by Southwestern are Westminster College at Tehuacana and Weatherford College at Weatherford.

Branch Colleges Possible on Army Posts

The army has agreed to lend facilities on army reservations to educational institutions for nonhousing aid to student veterans, it was reported on September 15 by Senator James M. Mead.

The War Department will issue revocable permits to the Federal Works Agency for the remodeling and use of buildings and for use of land not currently needed for military purposes.

"In some instances," Senator Mead declares, "the new procedure will enable institutions to establish temporary branches on military reservations more quickly than they could provide temporary classroom, laboratory, office and other nonhousing facilities on their own campuses." He is negotiating with the navy for a similar use of surplus facilities.

The plan is similar to that under the Mead amendment to the Lanham Act by which the War Department provides temporary housing for student veterans and their families on military reservations.

Massachusetts State College has opened a branch at Fort Devens and other schools are making similar arrangements.

Yale Plans Unusual Convocation

Outgrowth of the Yale University Council on the Library and Museums was a two day convocation opening with exhibits from outstanding collections of paintings, natural science displays and rare books and ending with a ceremony conferring honorary degrees on leading librarians and museum directors of the country. Held October 18 and 19 at New Haven, the convocation is believed to be the first of its kind at any university.

Attorney General Rules on Surplus Real Property

The Attorney General sustained the legality of the War Assets Administration's authority under the Surplus Property Act to dispose of surplus real property for educational or health purposes at discounts to users qualified to apply for such properties, according to an announcement of W.A.A.

The ruling was sought by the W.A. administrator because validity of the transfer of Thunderbird Field in Arizona to a nonprofit educational institution at a discount of 100 per cent had been questioned by a committee of the House of Representatives.

Action which had been stopped by W.A.A. on the transfer of 52 other surplus real properties for educational and health purposes was resumed after the attorney general's favorable ruling. These properites have been assigned for disposal for educational or health purposes at a discount of 100 per cent or for lease at a nominal rental. No further action concerning Thunderbird Field will be taken until the House Select Committee has finished its current investigation.

1500 Vets at Berthing Facility

The College of William and Mary has acquired the use of the St. Helena berthing facility at Norfolk, Va., and is utilizing the building for accommodating approximately 1500 veterans for a standard freshman college program. This facility, owned by the navy, is being temporarily lent to the state and the college in order to ease the enrollment situation.

Labor Troubles Halt Project

Labor troubles recently brought work to a standstill on a Rutgers University housing project when members of other crafts refused to cross a picket line established by 300 members of Local 20, Sheet Metal Workers International Association, A.F. of L., which is involved in a jurisdictional dispute with the Iron Workers Union, also an A.F. of L. affiliate.

Trend Toward Larger Aid to Teacher Retirement Plans

Princeton University is the latest institution to increase its contribution to the faculty annuity plan, in line with a distinct trend toward strengthening and expanding retirement plans for personnel on the part of many educational institutions.

In cooperation with the Teachers Insurance and Annuity Association, Princeton revised its retirement plan on the basis of from 10 to 20 per cent of salary according to age, the university sharing premium payments equally with faculty members.

Other colleges and universities, which in the last three years have increased to more than 10 per cent the total contributions for their retirement plans with the Teachers Insurance and Annuity Association, a Carnegie sponsored organization, are:

In the East: Columbia, Colgate, Elmira, Rochester Tech and Syracuse in New York State; Bradford Junior College and Williams in Massachusetts; the University of Pittsburgh, and Carnegie Institution in Washington, D. C.

In the South: Washington and Lee University in Virginia and Emmett College in North Carolina.

In the Middle West: University of Michigan; Oberlin and Wittenberg Colleges in Ohio and Hamline University in Minnesota.

In the West: Colorado College and Reed College in Oregon.

The association mentioned is now polling 1000 colleges and universities to get the latest data on the number, types and effectiveness of retirement plans now in operation.

Study Concerns Future Chemistry Buildings

College construction of unprecedented magnitude will get under way when the log jam holding up building breaks, Harry F. Lewis, research associate of the Institute of Paper Chemistry, declares in a survey of educational housing reported to the American Chemical Society.

Laboratories and classrooms for chemistry and physics departments will comprise a principal part of the new building program, according to Mr. Lewis. Many chemistry departments of today are housed in buildings erected in the mission furniture days when wide hallways, high ceilings, oak

paneling, poorly ventilated and isolated laboratories were the style, Mr. Lewis declares. Such buildings are inefficient in layout, wasteful of physical energy of the staff and expensive to maintain.

The college chemistry building of tomorrow must be designed to serve three classes of students: those for whom the chemistry course is part of the groundwork of a liberal education, those taking chemistry in preprofessional training and those majoring in chemistry intending to enter the profession after graduation. The building must also provide research and library facilities for the chemistry staff.

Materials of construction recommended for the building shell are steel frame and prefabricated insulated sections, such as those used in much of the wartime industrial construction. Steel frame and brick or stone or concrete block faced with a coating of cement would also be serviceable.

A building 100 by 75 feet, with one full floor and a partial basement 85 by 20 feet, serving nearly 200 students, three full time instructors and a number of student assistants is recommended for the small college as a result of several years of study of its problem.

Keffer and Jones Design Library

R. E. Ellsworth, author of the article on the new University of Iowa library in the August issue, wishes to announce that the architects for this library are Keffer and Jones of Des Moines.

Eastern Washington Keeps Student Costs Low

To permit veterans to live comfortably on their allotments, Eastern Washington College of Education is charging married veterans only $15 a month for trailers, including all utilities except ice.

Board and room for all students in dormitories is kept at $102.50 for the entire fall quarter and that entitles the students to excellent well balanced meals, President Walter W. Isle reports.

To prove that recreation costs can be slight, the college suggests that students dance in the new college union building and picnic at a nearby lake.

The large Kaiser war plant dormitory being hauled to Cheney for student housing was not ready October 2 when classes began, so double deck beds were temporarily placed in the gymnasium to accommodate some men students and four girls were assigned to each two room dormitory suite.

Adult Education Must Save World: Hutchins

Chancellor Robert M. Hutchins of the University of Chicago is on a leave of absence until July 1 to direct the adult education program of Encyclopaedia Britannica, Inc.

"We have been saying for years that education is the way to improve society, but we have limited education to infants between the ages of 6 and 21," Chancellor Hutchins said. "If we want to save the world, this program is unrealistic. The world today may not last long enough to let the present educational system affect the course of events."

Moving pictures will play a large part in his plans to educate adults, according to Dr. Hutchins.

"The war has developed a large number of persons who know how to make motion pictures and we are about to see an enormous development in their use for educational purposes, not only in the schools but in organizations of adults," Dr. Hutchins said.

He also will promote the development of more groups to study "the great books of the western world," which the Britannica is to produce under his editorship. Dr. Hutchins predicted that 15,000,000 persons could be enrolled in such groups if books and readers could be provided.

To Study Alleged Discrimination

The city council of New York City recently voted unanimously to set up a special committee to look into alleged discrimination against students seeking admission to professional schools. The legislation had the support of Mayor O'Dwyer and his administration.

The committee is expected to receive $15,000 of city funds for the inquiry. The resolution setting up the committee provides for an investigation into the causes underlying difficulties of graduates of city maintained colleges and secondary schools in obtaining graduate and professional education. The committee will seek also to ascertain whether educational institutions are practicing discrimination in admitting students because of race, color or creed.

Dr. Stephen S. Wise, president of the American Jewish Congress, called the action "a major step in restoring to the citizens of New York City their democratic right to educational opportunity." He said the council's resolution was the culmination of a series of actions begun last March when he applied to the city tax commission for the cancellation of the tax exemption of Columbia University on the grounds that its medical school "discriminates against students of Jewish, Italian and Negro ancestry."

Second N. Y. Pioneering Course

A two year post-high school course in retail management opened October 1 at Utica Institute of Applied Arts and Sciences, one of the five technical institutes in New York State to be conducted on a five year experimental basis. New York is already pioneering in the first state school for industrial and labor relations.

Trustees Behind the Plow

To break ground for the new men's dormitory at the College of Puget Sound, Tacoma, Wash., a jeep driven by the president of the student body was used to plow the first furrow. After President Emeritus Edward H. Todd turned the first shovel of earth, the jeep was hitched to a plow and members of the board of trustees took turns behind it.

N. Y. U. Dean Answers Discrimination Charge

Charged with practicing religious discrimination because it again has scheduled classes through Saturday noon, New York University through Dean William B. Baer as spokesman declares that elimination of Saturday class hours would mean further limitations on enrollment.

"At the moment," Dean Baer declared, "there are more Catholics registered with us than Protestants; more Jews than Gentiles. A Negro has never been refused admission except, as anyone else, on the basis of a poor high school record. We ask no questions about church affiliations until after an applicant has been admitted and registered and then only because campus religious societies want to seek new members."

Veterans Air Gripes

Shortage of housing, inadequate subsistence allowances, lack of books, not enough teachers—those are pretty important gripes as set forth by the lucky veterans interviewed on "Report From the Campus," the first of two special veterans' programs presented over the Columbia Broadcasting System. The lucky veterans are the ones who hit the jackpot when it came to applications for acceptance at a college, university or emergency two year college.

The biggest gripe, of course, was the problem of application. To many, it is still a problem—they are the unlucky ones and they are not all veterans. Of 2,080,000 who applied, 1,600,000 were accepted. Among the nearly 500,000 on the waiting list are 270,000 veterans. They are a patient lot, however, according to the views expressed; they understand that a grateful nation is sincere when it says, "We want to give you the *opportunity* for an education as we promised. . . ." They know that *opportunity* and *ability* to provide it are two entirely different things.

The veterans are not the only ones whose future plans have been altered. One 17 year old, who applied to a small school in Ohio, one in Michigan, one in Missouri, one on the West Coast, one on Long Island, plus a few others, sums up her problem in Sinatra fashion, "I'll just have to sit this one out." An 18 year old, who tried big name universities and small colleges to the loss of a few dollars in postage, rationalizes on a basis of timing: "I could have been born in a better year."

Dr. Cloyd H. Marvin, president of George Washington University, Ralph McDonald of the N.E.A. Department of Higher Education and H. V. Sterling, chairman of the rehabilitation and vocational committee of the Veterans Administration, listening to the gripes, had a few recommendations to make to both individuals and institutions.

They Play in the Barn

A giant barn on what was once the university farm at Syracuse University has been converted into a student center for veterans and their wives living in a nearby trailer colony. Reading rooms, game rooms, snack bars and a huge dance floor are part of the recreation center.

Names in the News

Robert E. Frederickson has been appointed comptroller of Hobart and William Smith Colleges, taking over the duties of *Dr. H. N. Hubbs* who will devote full time to his professorship of mathematics and his post as treasurer of the colleges. Mr. Frederickson was vice president and treasurer of Symington-Gould Corporation, Rochester, N. Y., until he retired from active business to regain his health, which he did while operating a farm near Cheshire, N. Y.

Glen G. Dickenson, farm management specialist of the Virginia Agricultural Extension Service, has been lent to Virginia Polytechnic Institute to coordinate the details of housing, feeding and instruction of 500 students who are quartered in a dormitory at the Radford Ordnance Works. Fifteen buses transport these students, mostly freshmen, between Tech campus and the ordnance works.

William Duncan Copeland, vice president of Lake Forest College, is the new president of Billings Polytechnic Institute in Montana.

J. J. Gerber recently joined the firm of Howard T. Beaver and Associates, Chicago, fund raising consultants to philanthropic and charitable institutions. Mr. Gerber has been employed in the public relations department of Northwestern University since 1937, except for three years when he was a special agent for the Federal Bureau of Investigation.

Gordon Dasher has been appointed assistant treasurer of the Savannah Division of the University of Georgia. *Col. William A. Cunningham* has been named dean of students.

Dr. Ralph E. Montonna, assistant dean of the University of Minnesota graduate school, has been named director of a new $1,000,000 Institute of Industrial Research being organized by Syracuse University. The research institute will occupy government buildings that were part of the $20,000,000 war plant utilized by General Electric Company.

Silas Thurlow is the new business administrator of Marietta College. His appointment as finance and business officer of the college was recommended by a special committee of trustees appointed last June. Mr. Thurlow was president of the Marietta Chair Company before his retirement in 1943. During the war he was pressed into wartime service by the Koppers Company.

Henry Clay Chenault has been appointed vice president, University of Arkansas, and dean, School of Medicine, succeeding *Byron L. Robinson.*

Dr. E. DeAlton Partridge, formerly of New Jersey State Teachers College, Montclair, has gone to Visual Education Consultants, Inc., of New York City, as executive director.

West Mosteller has been appointed manager of the bookstore and head of university stores at the Savannah Division, University of Georgia.

George Fauerbach is now dietitian-manager of New York's City College cafeteria units. He succeeds *Doris Zumsteg* as director of dining facilities at both the uptown and commerce centers. Mr. Fauerbach is a graduate in hotel administration and has had hotel, restaurant and commissary experience with five corporations.

William L. Nicholas is the new president of Nebraska State Teachers College at Peru. He was supervisor of the division of occupational information and guidance of the state department of public instruction.

Wendell M. Patton Jr. has been appointed assistant registrar of the University of Georgia to assist *Dr. J. Ralph Thaxton,* registrar.

Brother F. Thomas, F.S.C., is the new president of St. John's College, Washington, D. C. He formerly was on the staff of the University of Scranton.

James Thomas Anderson has retired as president of Nebraska State Teachers College, Wayne, and *Victor P. Morey,* dean, has been elevated to the presidency.

Paul C. Packer has taken up his new duties as chancellor of the Oregon State System of Higher Education, succeeding *Frederick H. Hunter* who retired because of ill health. Dr. Packer was dean of the college of education, University of Iowa.

R. E. Cameron, 4-H club leader in Montana for the last eleven years, is now director of the division of institutional and field service, Montana State College, *President R. R. Renne* announces.

George A. Roberts, publicity director at Union College, has been appointed administrative asistant to *President Asa S. Knowles,* president of the Associated Colleges of Upper New York.

Dr. James Deacon Bruce, vice president emeritus of the University of Michigan, died of cerebral hemorrhage at the age of 73 years. He served as vice president in charge of university relations from 1931 to 1942 and was widely known as a pioneer in postgraduate medical education.

John V. Arrendale Jr. is the new superintendent of the University of Georgia creamery, succeeding *Herbert H. Cobb.*

Edwin M. Durand is now secretary of the Newark Colleges of Rutgers University. He was formerly acting assistant dean of men in the men's colleges on the New Brunswick campus. In his new position Mr. Durand will provide liaison between the Newark and New Brunswick colleges.

Omer Prence is the new director of placement and extension at Eastern Washington College of Education. He will continue his work as acting dean of men. *Leslie W. Lee,* former director of placement and extension, has gone into public school administration at Rosalia, Wash.

Rudolph W. Sippola, former assistant treasurer at Syracuse University, is the new business manager of Triple Cities College, Endicott, N. Y., a new two year institution serving 700 students.

Eugene S. Wilson Jr. has been named director of admissions at Amherst College; he was formerly alumni secretary.

Charles M. Cochran is the new dean of men and assistant to the bursar at Franklin College in Indiana.

Harold E. Way, acting president of Knox College, will, when *Dr. Lyndon O. Brown* assumes the presidency on January 1, become vice president of the college.

William J. Scarborough, dean of Morningside College, Sioux City, Iowa, has been named president of West Virginia Wesleyan College. *Dean A. A. Schoolcraft* served as acting president of the college following *President James Warren Broyles'* death a year ago.

DIRECTORY OF ASSOCIATIONS

Associations of College and University Business Officers

Central Association

President: C. D. Simmons, University of Texas; vice president: Herbert Watkins, University of Michigan; secretary-treasurer: T. E. Blackwell, Washington University.

Executive Committee: A. W. Peterson, University of Wisconsin; Lawrence R. Lunden, University of Minnesota; H. H. Brooks, DePauw University; William B. Harrell, University of Chicago.

Eastern Association

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Executive Committee: Jamie Anthony, Georgia School of Technology; E. H. Fisher, Southeastern College; J. B. Paysinger, Columbia College; James F. Blair, Union College; C. B. Markham, Duke University.

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President: J. Orville Lindstrom, University of Oregon; vice president: William Norton, University of California; secretary-treasurer: K. B. Sauls, Brigham Young University.

Executive Committee: O. D. Garrison, University of Idaho, Southern Branch; Nelson A. Wahlstrom, University of Washington; Robert D. Fisher, University of Southern California.

Association of Business Officers in Negro Colleges

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Executive Committee: Don A. Davis, Hampton Institute; Viola Means, South Carolina State College; L. H. Foster Sr., Virginia State College; W. A. Morgan, Bishop College.

Educational Buyers Association

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Association of Superintendents of Buildings and Grounds of Universities and Colleges

President: L. F. Seaton, University of Nebraska; vice president: Paul H. Elleman, Ohio State University; secretary-treasurer: A. F. Gallistel, University of Wisconsin.

Executive Committee: L. F. Seaton, University of Nebraska; Paul H. Elleman, Ohio State University; A. F. Gallistel, University of Wisconsin; Henry E. Pearson, Indiana University; John J. Colgate, University of Pennsylvania.

Association of College Unions

President: D. R. Matthews, University of Florida; vice president: Douglas O. Woodruff, University of Utah; secretary-treasurer: Edgar Whiting, Cornell University; editor: Porter Butts, University of Wisconsin.

American College Public Relations Association

President: Harold K. Schellenger, Ohio State University; vice presidents: research, E. Ross Bartley, Indiana University; membership, W. Henry Johnston, Colgate University; regions, Horace Renegar, Tulane University; radio, Elmer G. Sulzer, University of Kentucky; athletics, William H. Wranek, University of Virginia; secretary-treasurer: Max E. Hannum, Carnegie Institute of Technology.

Publications: editor, Lorena Drummond, Southern Illinois Normal University; associate editor, Paul Faris, Hendrix College; business manager, Roy K. Wilson, National Education Association.

National Association of College Stores

President: Norman M. Gay, Boston University Book Stores; vice president: A. W. Littlefield, Barnes and Noble, Inc., New York City; immediate past president: E. C. Rather, University Cooperative Society, Austin, Tex. Directors: Fred Davis, The Citadel Canteen, Charleston, S. C.; John H. Jenkins, St. Louis University Book Stores, St. Louis; H. H. Hays, Berea College Store, Berea, Ky.; George Racine, Student Book Exchange, Evanston, Ill.; manufacturer's representative: Charles Lofgren, Sanford Ink Co., Chicago; executive secretary: Russell Reynolds, 189 W. Madison St., Chicago.

PRODUCT INFORMATION

Information on the materials, equipment and supplies with which an institution is built, operated and maintained and which are used in its various departments is of vital interest to those charged with the business operation. College and University Business recognizes the importance of this information and believes it has rendered a real service by grouping manufacturers' announcements and new product descriptions into a separate part of the magazine. We believe this is an infinitely better plan than to mix such information through the editorial pages where it becomes obscure and confusing.

You will find manufacturers' advertisements from pages 41 through 64. Pages 56-63 contain descriptions of new products and items of interest. Further details on any product advertised or described may be obtained without obligation and with a minimum of effort by use of the postcard below.

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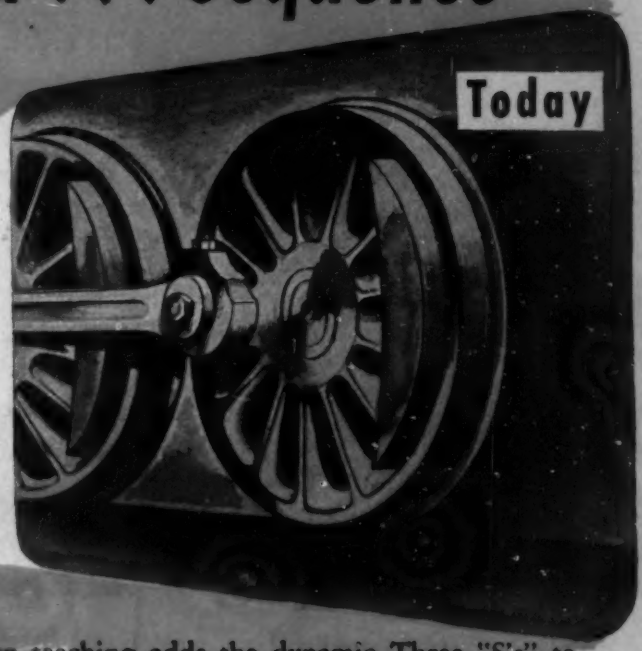

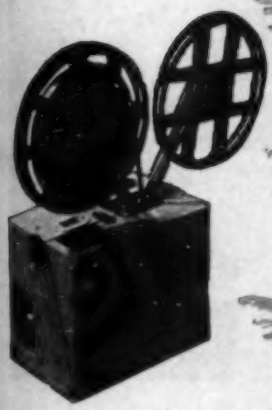

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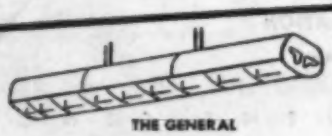

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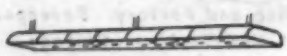

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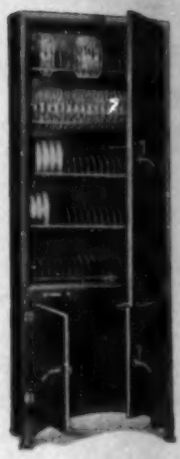

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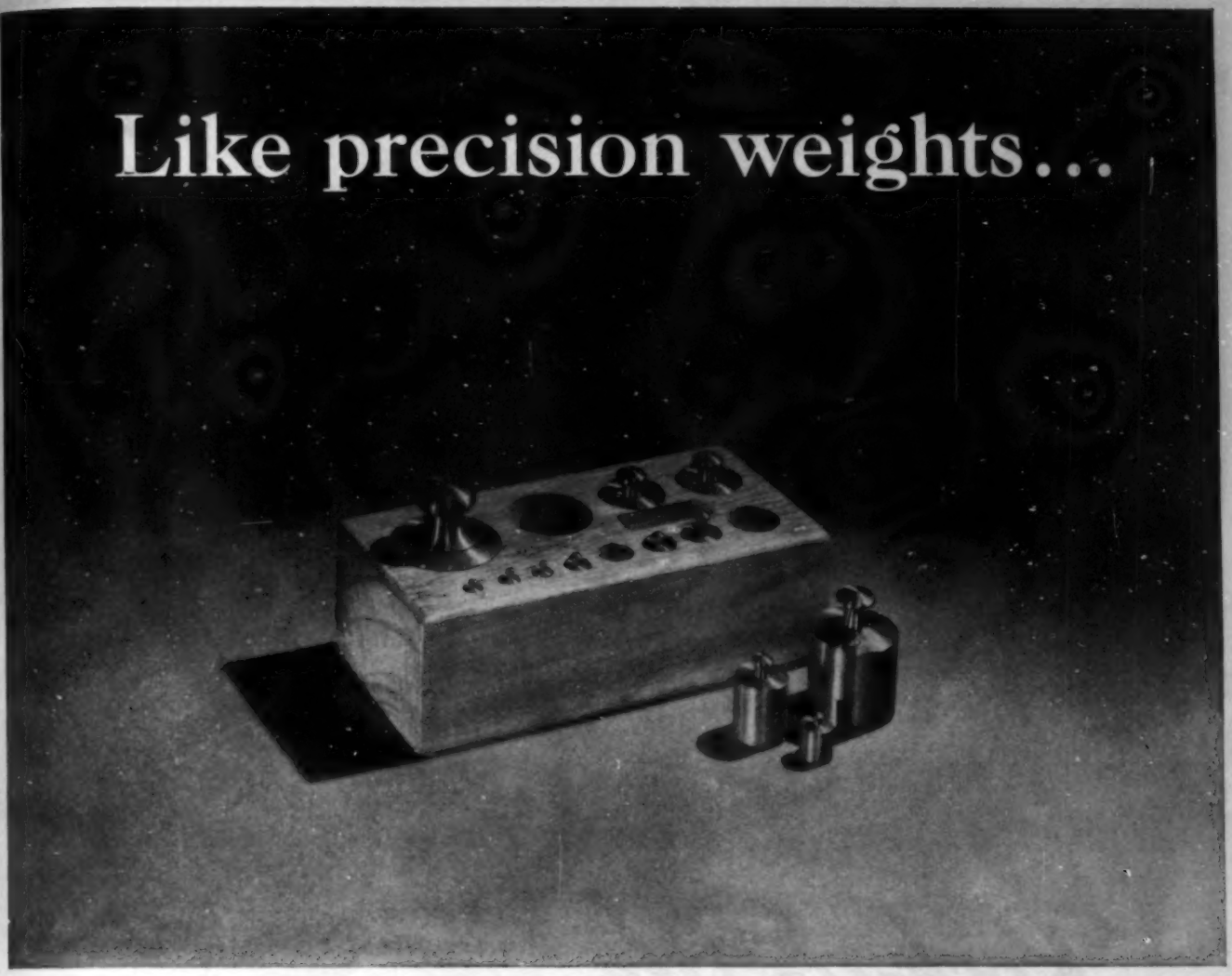
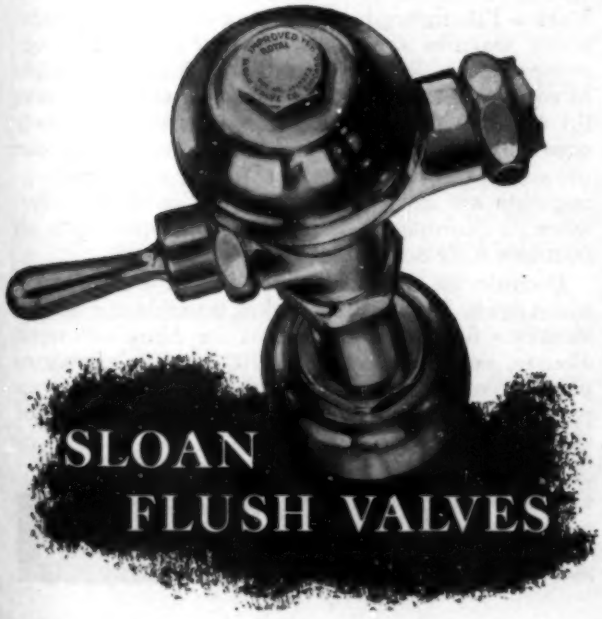


The Royal never needs adjustment



Because there's nothing to adjust

The ROYAL is the *only* Flush Valve which has no adjustment or regulation. Its simplicity of engineering design, *plus* precision manufacture, insure accurate and lasting performance.

More than 4 million ROYAL Flush Valves are in daily service—including thousands of the first ROYALS installed over 36 years ago.

The ROYAL is "standard equipment" with discriminating builders and owners throughout the country. In fact, entire school systems, hotel chains, hospitals, industrial institutions, etc., use ROYALS exclusively.

For the best in Flush Valves specify Sloan—remember, there are more Sloan Flush Valves sold than all other makes combined.

SLOAN VALVE COMPANY
4300 WEST LAKE STREET, CHICAGO 24, ILLINOIS

Yes! The screen raises to higher positions than shown here—simply pull back elevating tubing and raise screen and case in one smooth, easy movement.

CHOOSE THE SCREEN THAT'S *Way Ahead*

—The New DA-LITE CHALLENGER!

Only the new Challenger has these advanced features—new **Glass-Beaded Fabric** for still finer projection—new internal **"Slide-A-Matic" Locking** for quicker set-up and simpler height adjustment—new stronger **Octagon Case** for better fabric protection—new **Ridge-Top Legs** for greater strength and stability. These are only a few of the many improvements that make the Challenger ideal for classroom use. . . . Ask your school supply dealer for the new Da-Lite Challenger. Send for new literature on this and other popular models in the Da-Lite line — famous for quality screens for over 37 years! Address Dept. 10CUB.

DA-LITE

DA-LITE SCREEN COMPANY, Inc.

2702 NORTH CRAWFORD AVENUE, CHICAGO 39, ILLINOIS

*Rock-a-File**

The Greatest Filing Advancement Since 1893!

Standard letter and legal size models. Attractively finished in lustrous gray to harmonize with any office color scheme. Compartments have wide, ample satin-finish aluminum handles with snap-on transparent label holders.

*REG. U. S. PAT. OFF. PATS. APPLIED FOR

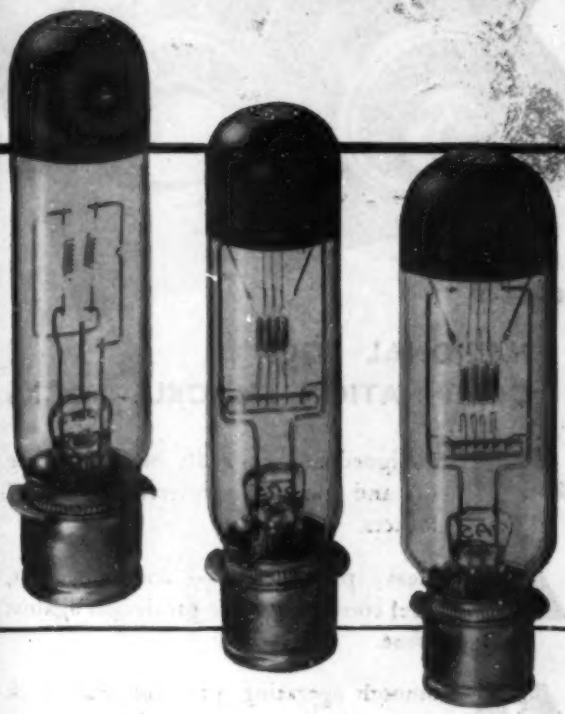
Rock-a-File means modern filing—because it exclusively features side-filing, *the first basic filing improvement in 53 years!* Its revolutionary principle of compartments that "rock" open sideways *saves up to 40% floor space.* All contents completely accessible all the time; two or more persons can file simultaneously. Rock-a-File is *topple-proof* . . . contents are always safely within cabinet framework . . . compartments can remain open with all contents fully accessible.

Because its compartments project only slightly when open, Rock-a-File makes possible the use of locations formerly impractical for filing—corners, alcoves, corridors, etc. And Rock-a-File's modern principle makes filing amazingly effortless. All compartments open and close so easily . . . a touch of the fingers does it.

Write for free circular containing complete information.

ROCKWELL-BARNES COMPANY
35 East Wacker Drive Chicago 1, Ill.

Don't let a burnout spoil *your* movies!



GET A "SPARE" G-E projection lamp

Your dealer has plenty of the high-wattage size you need

Imagine an important story on the screen . . . all the power of pictures and action . . . and then BLACKNESS!

Don't let a burnout spoil your show! See that you have a spare G-E Projection Lamp with every movie projector you operate. Your dealer now has plenty of these popular sizes!

200-watt T-10 300-watt T-10 500-watt T-10
750-watt T-12 1000-watt T-12

See him today and get the spares you need so you'll be ready for emergencies. For some slide projectors however, and projectors requiring lower wattage lamps, the supply is still limited.

Confused about lamp sizes? If you have a variety of types of projector, send for the G-E Projection Lamp Guide, which tells you the correct size lamp for all types of projectors. Simply write General Electric, Div. 166, PA, Nela Park, Cleveland 12, Ohio.

Be sure it's G-E . . . to be sure of:

1. Greater screen brightness, clearer pictures . . . G-E lamps are designed to give you full advantage from the optical system of your equipment.

2. More uniform screen brightness . . . differentially coiled filaments on most popular sizes fill the film aperture smoothly.

3. Uniformly dependable performance on every replacement . . . thanks to precision manufacture, rigid inspection.

4. Constant improvement, as developed by G-E lamp research, for better, clearer projection. See your G-E dealer today.

For better "still" pictures keep asking for G-E midgets!

Remember . . . for every photographic purpose

G-E LAMPS

GENERAL ELECTRIC

CONTROL FLOOR WEAR *Scientifically*

With PYRA-SEAL

Floors wear out for two reasons . . . (1) from abrasion on top caused by the grinding of foot traffic . . . and (2) from deterioration underneath the surface—rotting caused by moisture seepage. Some floor seals protect against either one of these floor destroying agents . . . but PYRA-SEAL protects against BOTH. It's DOUBLE protection for your floors.

PYRA-SEAL is a product of laboratory science, developed by Vestal to conquer floor wear from ANY source. It dries to a hard, lustrous, beautiful and long-wearing finish for surface protection. It *seals the pores* in the floors for protection underneath.

PYRA-SEAL is back from war. We stopped production of PYRA-SEAL when vital ingredients went to war — we would not compromise with quality by substituting. Now, these vital ingredients are back — AND SO IS PYRA-SEAL!

Approved and Recommended by
Maple Flooring Manufacturers Assn.
National Oak Flooring Manufacturers Assn.
Leading Architects.

VESTAL INC.
ST. LOUIS NEW YORK

maximum security

with

NATIONAL LOCK COMBINATION SHACKLE LOCKS

1. Designed and ruggedly built for long life and maximum protection to school lockers.
2. Heavy plated case — double weight, steel construction for protection against abuse.
3. Smooth operating, precision made lock mechanism, assures dependable service.
4. Heavy 5/16" diameter shackle. Black enameled dial with white numerals and graduations.

AVAILABLE IN TWO POPULAR STYLES

No. 68-265 (at right). A heavy duty lock, requiring three number dialing to open. When shackle is inserted into case, combination is disarranged and lock must be redialed to open. Dial is locked against rotation when shackle is open.

No. 68-264 (at left). Same top quality construction as above, except with master key feature. Student uses dial to open lock. Authorized custodian can gain immediate access to lock with master key.

Free LOCK RECORD BOOK

An attractive, durable, loose-leaf leatherette covered LOCK RECORD BOOK, containing charts for records of your Combination Locks, is available at no extra cost with each order of 100 locks or more.

NATIONAL LOCK COMPANY
Lock Division • ROCKFORD, ILLINOIS

Announcing the New AMPRO SLIDE PROJECTOR

with the features you have always wanted

AMPRO SLIDE PROJECTOR
Model "30-A"
(2" x 2")

Has Important Basic Improvements

This new AMPROSLIDE projector (2"x2") embodies the engineering skill and fine precision workmanship that have made Ampro 8mm. and 16mm. projectors world famous for quality. It offers features that guarantee quick, simplified operation--and long satisfactory service, including:

Automatic snap-action, self-centering slide changer, with patented features that assure hair-line focus, perfect alignment of slides on screen, interchange of glass and ready mount slides without refocusing. Operates with one hand--fingers never touch slide surface . . . **Convenient case lifts off** in a flash for easy accessibility . . . F 3:5 anastigmat projection lense. 5" focal length with convenient knob for hair-line focusing . . . **New condenser design** that combines maximum brilliance with cooler operation . . . 300 watts of uniform light with effective heat dissipation and minimum light loss . . . **Pointer aperture** permits use of pointer with slides . . . Attractively finished, compact, sturdy with clean flowing lines and controls and parts readily accessible . . . the ideal projector for brilliant full color or black-and-white 2" x 2" slide projection.

Write for special Amproslide circular giving full specifications and prices.

AMPRO

8 mm Silent • 16 mm Silent
16 mm Sound-on-Film • Slide Projectors
16 mm Arc Projectors

AMPRO CORPORATION ★ CHICAGO 18, ILLINOIS—*A General Precision Equipment Corporation Subsidiary*

PICTURE POST CARDS

Publicity That Continues Thru The Years

Artvue Picture Post Cards serve you in more ways than one. Everyone likes to mail them to friends and relatives. This benefits Public Relations. In addition the College Store derives a handsome cash profit from this fast selling item.

Printed in one of the finest processes known to the Graphic Arts . . . Artvue is the standard accepted by Colleges everywhere.

Write for Folder UB

ARTVUE POST CARD CO.
225 Fifth Avenue, New York 10, N. Y.

FLOOR MATTING

for Promoting Safety • Providing Comfort • Reducing Fatigue Furthering Sanitation

EZY-RUG Rubber Link MATTING
Traps dirt at the door and prevents tracking through building, reduces cleaning and redecorating costs. For entrances and corridors. Available with lettering.

TUF-TRED TIRE FABRIC MATTING
For corridors, entrances, shower and locker rooms, kitchens, back of counters, around machinery. ⅝" thick, up to 6' wide, any length.

AMERITRED SOLID PLASTIC FRICTION MATTING
For ramps, stairs, landings, shower and locker rooms, entrances, in front and back of counters. Good scrapenge. 29" x 62" x 9/64" sections. Can be laid side by side, or trimmed for small or odd shaped areas.

AMERICAN Counter-Tred MATTING
A durable rubber and cord matting for lavatories, shower and locker rooms, swimming pools, and behind counters. ⅜" thick, approximately 24" wide, any length.

AMERIFLEX Hardwood Link MATTING
Links are held on galvanized steel springwire framework. Can be rolled or folded.

"WALRUS HIDE" Roll-Rubber MATTING
A quality runner for hallways, corridors and aisles. 36" wide, ⅛" thick, approximately 60 yards long.

Write for prices and folder "A Mat for Every Purpose."

AMERICAN MAT CORPORATION
"America's Largest Matting Specialists"
2736 Adams Street • Toledo 2, Ohio

For Colleges and Universities there can be

NO FINER MEMORIAL

than a Genuine DEAGAN CARILLON

. . . *the Tribute that Becomes* THE VOICE OF THE CAMPUS

The Time-Tested Product of a Time-Honored Firm

GENUINE CARILLONS • DEAGAN • HARMONICALLY TUNED

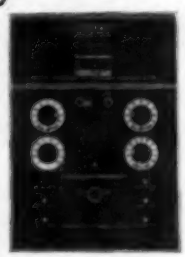
More than 65 Years' Service to Churches and Universities

Write for Interesting Details

J. C. DEAGAN, Inc.

379 Deagan Bldg., 1770 Berteau Ave., Chicago 13

REPORT CARD FOR SCHOOL MANAGEMENT



DUNHAM HEATING SYSTEM CONTROL PANEL

SOUND HEATING MAKES FOR BETTER STUDENTS AND GREATER FUEL ECONOMY

The Dunham Differential Vacuum Heating System provides automatic control of temperatures throughout school buildings and dormitories – automatically keeps temperatures at healthful levels. Temperatures can be maintained at any desired level. Write for Bulletin 632. C. A. Dunham Co., 450 E. Ohio St., Chicago 11, Illinois.

8-46

DUNHAM DIFFERENTIAL HEATING MEANS BETTER HEATING

CHICAGO • TORONTO • LONDON

Any musical phrase located instantly, repeated endlessly!

In teaching Wagner, for example, you may want to dwell upon both his spontaneous and his deliberate use of the leitmotiv for dramatic as well as musical ends. You'd like to repeat recorded illustrations again and again for contrast and analysis.

But how? By blindly searching for examples on a music record? No. By simply using the new Fairchild Language Master. It's a word, note or musical phrase-spotting playback machine. It has an illuminated 'spotting dial' that records the location of any word, note or musical phrase on a record. It has a hand operated lever which returns the pickup to the word, note or musical phrase that is to be repeated again and again—until mastered.

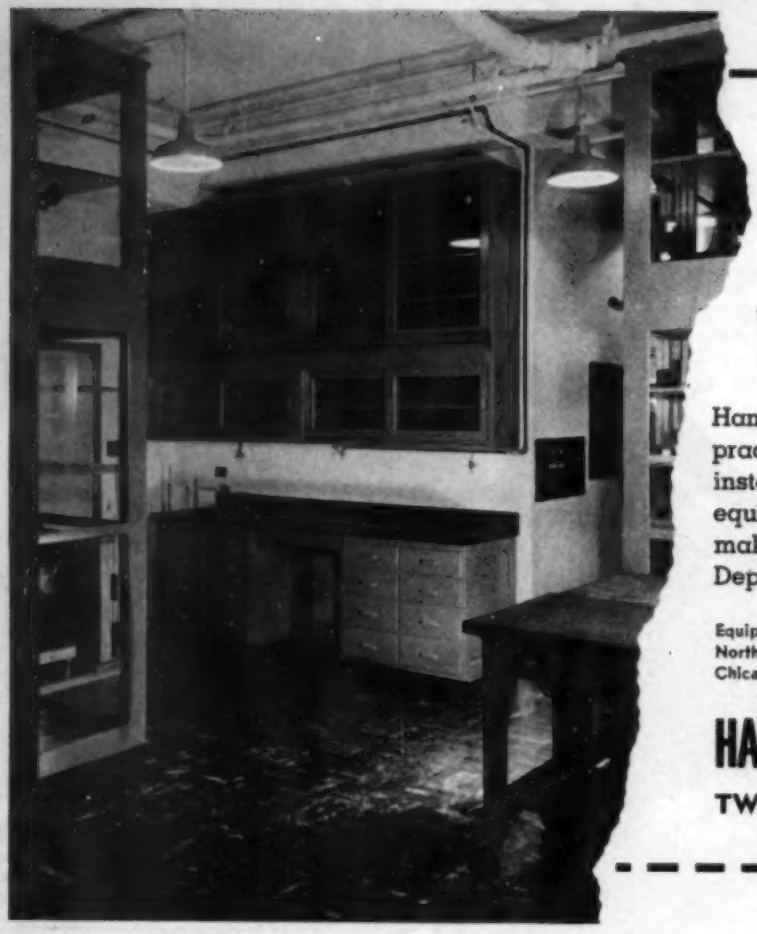
How can it be operated? Three ways. *First,* as a self-contained unit complete with amplifier and speaker. *Second,* without its own amplifier-speaker unit. Simply connect the playback to any existing sound system. *Third,* with headphones. The output of the crystal pickup will drive a pair of crystal headphones without the amplifier. Headphone use provides quiet listening for libraries or study rooms.

The Fairchild Language Master permits the rapid, concentrated study of many phases of musical theory, appreciation and history from recordings. It repeats any musical note or phrase for memorizing or reducing to score. It speeds the teaching of the languages needed for an extensive repertoire.

The Fairchild Language Master can be operated from any 110-120 AC light socket. It is priced within range of both instructor and student ownership. For complete information address: 88-06 Van Wyck Boulevard, Jamaica 1, New York.

SOUND EQUIPMENT

Fairchild **CAMERA AND INSTRUMENT CORPORATION**



SIMPLIFY

Your Planning Problems

Hamilton offers a creative planning service for practical advice on your individual laboratory installation problems, and modern, functional equipment to fit your specifications. Let us make your planning problems easy. Write Department CUB-10-46 for complete information.

Equipment by Hamilton
Northwestern Technological Institute
Chicago, Ill.

HAMILTON MANUFACTURING CO.

TWO RIVERS • WISCONSIN

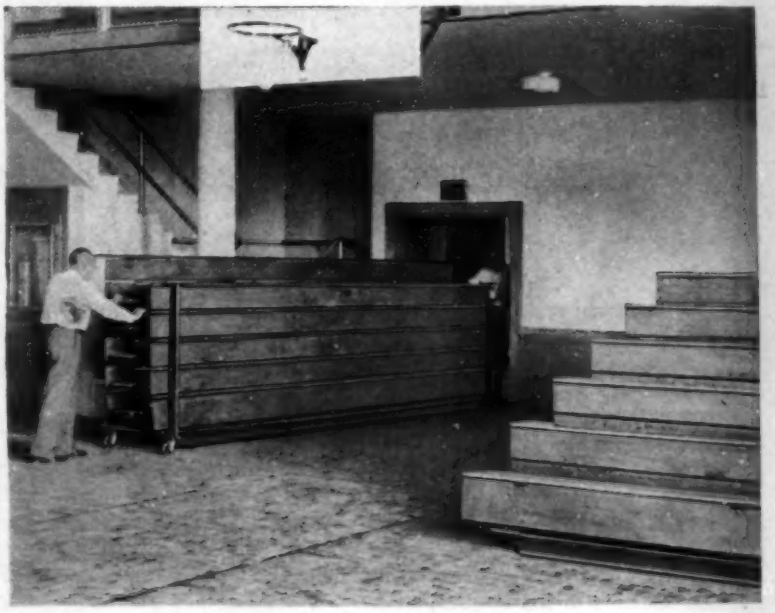
---

4 reasons why many schools are glad to wait for Wayne Gymstands

You can take the first grandstand equipment available and regret it a long time; or, like many others, wait a little longer for a Wayne Gymstand and be glad for years to come that you did. Here's why . . .

1. The specification of a Wayne Rolling Gymstand makes smaller, less costly buildings practical because it folds out of the way when not in use—with consequent increase in space for practice courts, calisthenics, etc.
2. It provides maximum comfort, safety and visibility for capacity crowds through scientifically correct design.
3. Opening and closing of Gymstand is extremely simple, because of ingenious exclusive design and construction features.
4. It can be built from 5 rows up to 20.

Send us the measurements of your present or proposed gymnasium for engineer's recommendations and estimate.



WAYNE MOVABLE ROLLING GYMSTAND.
Each unit when closed can be quickly and easily moved to another location.

Wayne Iron Works, 244 No. Pembroke Ave., Wayne, Pa.
Gentlemen: Please send us catalogs covering the Grandstands checked.
Portable ☐ Gymstand ☐ Permanent ☐

MY NAME_____

SCHOOL _____

ADDRESS_____

"Wayne Stands WAYNE GRANDSTANDS **for Safety"**

FOLDING & ROLLING GYMSTANDS* • PORTABLE GRANDSTANDS • PERMANENT STADIUMS

*REG. U.S. PAT. OFF.

"SPLIT-CORRIDOR" TEST

PROVES FLOORS STAY CLEAN UP TO *30% longer!*

If you want to know which floor treatment will wear longest, there's an easy way to tell. Laboratory wear tests give a clue . . . but the simplest, most convincing proof is the answer to the question, *How long will it keep the floor clean?*

Day-by-day service in hundreds of office buildings, hotels, hospitals and schools have repeatedly demonstrated the fact that with non-slippery Car-Na-Lac and Continental "18", floors stay clean up to 30% longer. Uniquely processed to adhere to the floor, these quality floor treatments become "welded" to the floor and prevent tracking off. Built to wear longer, they provide a hard, non-tacky finish that resists grinding in of dust and grime . . . the dirt stays on the surface until removed by sweeping.

Use Car-Na-Lac or Continental "18"! You'll find, as most maintenance men know, that the best treatment is the one that lasts the longest . . . is cheapest in the long run. Fewer applications are required, resulting in a double saving: (1) overall material costs are reduced, (2) less manpower is needed to apply the treatment.

Want proof? Make the "split-corridor" test, below.

CONTINENTAL CAR-NA-VAR CORP.

1645 E. National Ave. Brazil, Ind.

Specialists In Heavy Duty Floor Treatments

MAKE THIS TEST

Order a 55-gallon drum of Car-Na-Lac or Continental "18" floor finish — whichever you prefer—from your local Car-Na-Var floor maintenance representative . . . or from the factory direct. On arrival, apply floor treatment to one-half of any corridor or floor you choose. For comparison, apply brand formerly used to balance of area. See for yourself that the part treated with Car-Na-Lac or Continental "18" floor finishes stays clean up to 30% longer. If you are not completely satisfied, return unused portion for full credit.

CAR-NA-LAC
TRADE MARK REG. U.S. PAT. OFF.
LACQUER-LIKE FLOOR FINISH

Acts like a lacquer made of wax. Applied with the usual wax applicator. Levels out as it dries, resulting in a uniform, streakless, lacquer-like gloss. Self-polishing . . . dries in 15 to 20 minutes. Car-Na-Lac floor treatment has at least twice the wearing qualities of ordinary water waxes and is waterproof, non-slippery. Adapted for all floors except unsealed "raw" wood. *Meets Proposed Federal Specifications for Item 9, Type 1.*

AND

CONTINENTAL "18"
TRADE MARK REG. U.S. PAT. OFF.
THE SUPER FLOOR FINISH

The same as Car-Na-Lac except that it contains about 38% more solids. Heavier solid content gives a higher gloss and reduces number of applications. Covering capacity averages the same as Car-Na-Lac, but one coat does the work of two. Recommended by a leading national casualty insurance company for safety. *Meets U. S. Treasury Specifications for "Finish Material" (and Proposed Federal Specifications for Item 9, Type 11).*

Modern-Sturdy Clarin STEEL FOLDING CHAIRS

DESIGNED for Comfort

ENGINEERED for Strength and Dependability

The Clarin chair illustrated has wood seat—metal finish is smooth—rounded rubber feet, permanently fastened, protect polished floors. Opening and folding is simple and noiseless.

After more than 20 years of close observation, all possible annoyances have been eliminated, resulting in a TEN YEAR GUARANTEE.

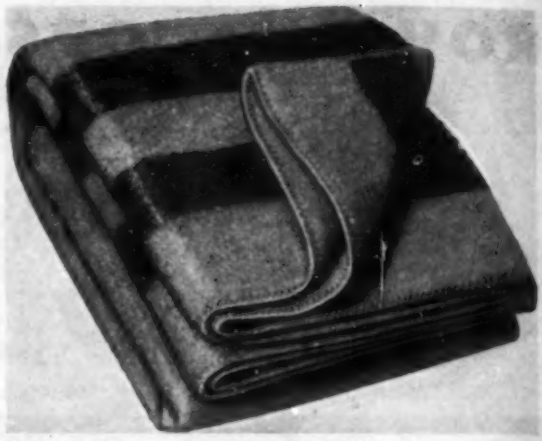
No. 2317-W

write

CLARIN MFG. CO.
4650 W. HARRISON ST.
CHICAGO 44, ILL.

There are more Clarin steel folding chairs in institutional service than any other make

BLANKETS



GLACIER
ALL WOOL—WHITE
with three colored stripes each end
72" x 90"
Whipped Ends
Write for sample . . . For immediate delivery

Now Available—Limited Quantities
Gymnasium Towels sizes 20 x 40
Write or wire today your requirements

THEODORE MAYER & CO.
329 W. Monroe Street Chicago, Illinois

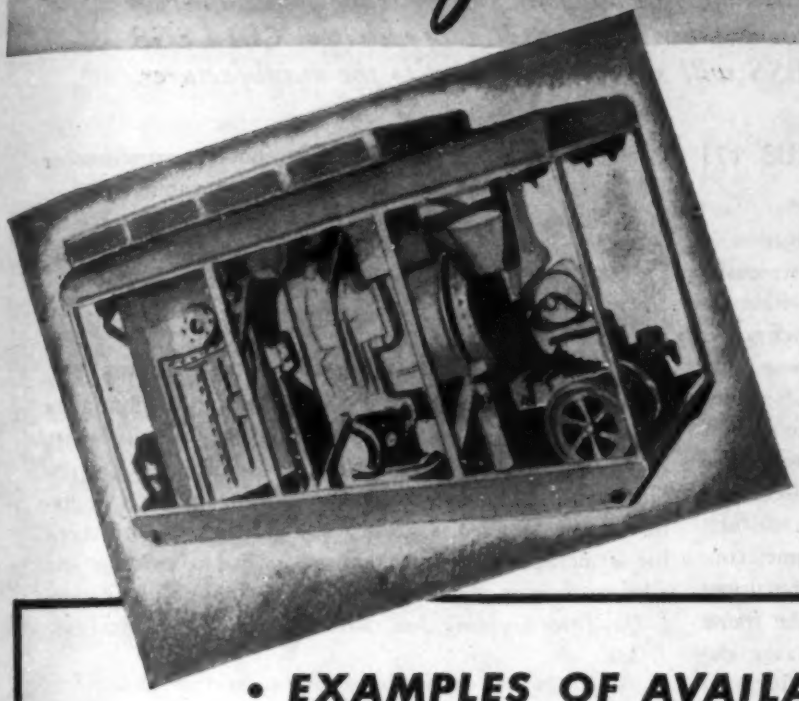
Thank you!

Since the first issue of College and University Business in July we have received more than a hundred letters from readers expressing their approval of the magazine and their appreciation of its service. They came from all parts of the country, from colleges, universities and private secondary schools, from business officers, purchasing agents, superintendents of buildings and grounds, directors of dormitories and feeding and other officials connected with the business operation of these institutions.

We appreciate the spirit of these letters and the thoughtfulness that prompted them. We also appreciate the expressions of praise and commendation from manufacturers who found in this magazine a new and effective means of communication with these readers. It is good to have words of encouragement for a new venture. It also establishes a goal of service at which to aim for the future and imposes upon us as publishers a responsibility which we gladly accept.

COLLEGE *and* UNIVERSITY BUSINESS

Water Purification EQUIPMENT



Small communities, plants, resort hotels, owners of private water systems and others who have been forced by war conditions to delay purchase of water purifying equipment may now get the needed units in a hurry and at low cost. Nearly $1,500,000 worth of this equipment has been declared surplus and is ready for delivery. This equipment, most of it unused, was built to rigid government specifications for use in Army and Navy installations all over the world. The units and accessories are suitable for installations which would normally call for expenditures from $1000 to $70,000—but in this instance the cost of the equipment will average considerably under normal expenditures. Crating to be done by purchaser. To purchase this equipment, simply call your nearest W.A.A. Regional Office.

• EXAMPLES OF AVAILABLE TYPES •

CHLORINATOR, Ser. No. L6938 w/accessories, Wallace & Tiernan Model type MXV-M, Rated capacity 0.6 lb. to 25 lb. per 24 hour, operating pressure 25 lb. to 250 lb. per hour. Floor base mounting. Estimated water treatment output 4,000,000 gallons.

CHLORINATOR, gauge and indicator stand, Serial No. J-1034. Attachments—hose with stopcock. Mfd. by Wallace & Tiernan. Present location Charleston POE, Charleston, S. C.

Everson Semi-Automatic Manual control vacuum solution feed type SterElator, Series 2900-4A, Type "S", equipped with a Naparion Orifice Motor having a 10 to 1 ratio, with metering capacity range of 1 lb. to 10 lb. of Chlorine Gas per 24 hrs., stationary. Equipment—185′ of chlorine solution hose, hard rubber nipple at end, and ⅛″ steel welded twist link chain, also 10′ of drain hose and 15′ of vent hose, with necessary spare parts for meter, gas regulator and valves; auxiliary tank valve, chlorine pressure gauge; set tools; one solenoid-operated water valve. One Howe No. 130 platform scale, 500# capacity; and one Taylor Enslow slide Comparator for determining chlorine residual. Mfd. by the Everson Mfg. Co., Chicago, Illinois.

HYPOCHLORINATOR, electrically operated, injector type, complete. Serial No. L-7162, including 1 Wallace & Tiernan comparator with prism, 1 chlorine disc and 100 CC bottle Ortho Tolidine solution and 1 30 gal. crock.

CHLORINATOR, vacuum type, dry feed manual control, 15 gal. reservoir, model B-15 No. 108 stationary, floor space required, 6 sq. ft., The McKay Co. With attached motor elec., belt driven, ¼ HP 115, w., 38 amp 1725 RPM, G.E. Model 5 Kc, L7AB4909.

CHLORINATOR, *Manual control, solution feed vacuum type, 40 lbs., 24 hrs., Wallace & Tiernan Mfg., Model type MSVM, Ser. No. K-1911, Complete, less scales. Wt. 400 lbs. Div. Equipment No. LA 100,342.

ALL ITEMS SUBJECT TO PRIOR SALE

All machines are sold under existing priority regulations. VETERANS OF WORLD WAR II are invited to be certified at the War Assets Administration Certifying Office serving their Area, and then to purchase the equipment offered herein.

EXPORTERS: Most surplus property is available to the export market. Merchandise in short supply is withheld from export and if such items appear in this advertisement they will be so identified by an asterisk.

WAR ASSETS ADMINISTRATION

GOVERNMENT OWNED SURPLUS

Offices located at: Atlanta • Birmingham • Boston • Charlotte • Chicago • Cincinnati • Cleveland • Dallas • Denver • Detroit • Fort Worth • Helena • Houston • Jacksonville • Kansas City, Mo. • Little Rock • Los Angeles • Louisville • Minneapolis • Nashville • New Orleans • New York • Oklahoma City • Omaha • Philadelphia • Portland, Ore. • Richmond • St. Louis • Salt Lake City • San Antonio • San Francisco • Seattle • Spokane

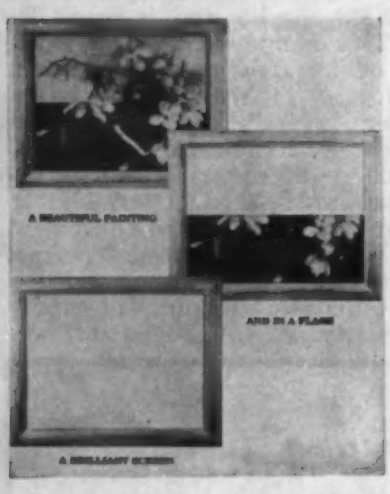
650

WHAT'S NEW. . . . . .

The easiest way to get more information about the new products described in this section is to use the postage paid card opposite page 40. Just circle the key number on the card which corresponds with the number in the headline of each item. COLLEGE and UNIVERSITY BUSINESS will send your request to the manufacturer.

New Projection Screen — CUB 171

Is Decorative Painting When Not in Use



An innovation in projection screens is the new "Pict-O-Screen" which serves a dual purpose: decoration and utility. When not in use, the "Pict-O-Screen" appears as a decorative painting in an impressive frame; concealed in the upper section of the frame is a specially designed projection screen incorporating the well known "Hy-Flect" glass beaded screen surface that reflects rather than absorbs light. This screen is instantly raised or lowered, easily and evenly, by a parachute-nylon cord.

The outstanding feature of the "Pict-O-Screen" is the handsome reproduction of an oil painting. There is a choice of six scenes which have been reproduced with authentic brush-stroke effect. They are permanently mounted in hand-finished frames and are available in a choice of antique gold or pickled pine finishes.—*Radiant Manufacturing Corporation, Chicago 8, Ill.*

Stainless Steel Utensils — CUB 172

For Food Preparation, Storage, Serving

Said to be ideal for food preparation, storage and serving equipment are the new Seco-Ware stainless steel utensils. A generously illustrated catalog showing stainless steel pans, adaptors, covers, tureens, warmers, trays and bowls, stainless steel or galvanized iron dish carriers and black iron roast pans, together with specifications, is available from the Seco Company and will be of assistance in selecting equipment for college kitchens.

The Nestrol nesting feature to conserve storage space is available on all indicated models. The pans, die stamped of solid stainless steel, one piece construction, feature coved corners. The finish cannot chip or crack and has no retinning or plating to wear off, it is pointed out. In addition, the smooth hard surface does not retain food particles, is easy to clean and will retain its luster throughout long and hard wear.

Seco-Ware is safe to use and cannot contaminate or affect the taste of food, according to the manufacturer.—*Seco Company, Inc., 5206 South Thirty-Eighth Street, St. Louis 16, Mo.*

Lighting Booklet — CUB 173

Features Check List for Fluorescent Fixtures

"How to Get the Most From Fluorescent Lighting" is a booklet that will be welcomed on any campus where building or modernizing is planned or in progress. The importance of proper selection in choosing the kind of fixtures to be installed is stressed in the booklet, and a check list is included to help in knowing what to look for and what to avoid in planning a fluorescent lighting installation. —*Day-Brite Lighting, Inc., 5411 Bulwer Avenue, St. Louis 7, Mo.*

Gymnasium Apparatus — CUB 174

Adds Stimulus to Physical Education Program

The new Medart Acromat-Trampolin contributes two definite assets to a well rounded physical education program: body development and fun—fun, the same as playing in a haystack is fun. Fun, however, is not the end in itself, for performance on the trampolin is recognized as a practical means of developing body control and muscular coordination. Its use is expected to pay ample dividends in students' physical development, together with their renewed enthusiasm for physical education.

The Acromat-Trampolin is designed for use as an integral part of the physical education program as well as a separate recreational activity, is adaptable for all age groups and is not only an activity for the potential athlete but an effective apparatus for corrective training as well. When set up ready for use, it provides a spacious bed 3 feet above the gymnasium floor within a frame 7 feet 7 inches wide by 13 feet 10 inches long. Its patented frame design permits quick and easy folding of the equipment into a compact unit 21 inches wide, 7 feet 7 inches long and 5 feet high, thus making it adaptable to even small gymnasiums. The entire unit lifts onto rubber-tired casters automatically as the frame is folded.

An instruction manual which accompanies the Acromat-Trampolin can be purchased separately. It contains a complete outline of Acromat-ics as a separate sports activity

and explains in detail the use of the Acromat-Trampolin in the daily physical education program.—*Fred Medart Manufacturing Company, 3535 De Kalb Street, St. Louis 18, Mo.*

Color Dynamic Principles — CUB 175

Presented in Comprehensive Manual

What is color? What are its various characteristics? Where, when, why, how should color be used? To answer these questions, the Pittsburgh Plate Glass Company has prepared a reference manual dealing with the origin, development and application of the Principles of Color Dynamics, or the scientific utilization of the inherent energy in color to promote efficiency, safety and happiness.

Although the information contained in the manual is comprehensive, attention is called to the fact that the science of color engineering is constantly moving ahead. Detailed information or specially written articles about the use of Color Dynamic Principles for any particular purpose can be obtained upon request.—*Pittsburgh Plate Glass Company, Public Relations Department, 632 Duquesne Way, Pittsburgh, Pa.*

New Slide Projector — CUB 176

Affords Narrator Freedom From Distraction

Amproslide, a new 2 by 2 inch slide projector, will prove of great assistance to the narrator of the slide-film. Because he must talk continuously in explaining scenes, he wants to be free of distracting operating details. As the result of a new automatic snap-action, self centering slide changer, Amproslide permits this freedom of operation.

Developed by Ampro technicians, this slide changer is said to embody patented features that assure instantaneous hair-line focus, perfect alignment of slides on the screen and the interchanging of glass and ready mounts without refocusing. Operated with one hand, the fingers need never touch the slide surface. Additional time is saved by the convenient case that quickly lifts off for easy accessibility and by a new up-and-down tilting device.

Other salient features of this new projector are F 3:5 anastigmat projection lens, 5 inch focal length with convenient knob for hair-line focusing, new condenser design that combines maximum brilliance with cooler operation, 300 watts of uniform light with effective heat dissipation and minimum light loss and pointer aperture to permit use of pointer with slides.

It is said to be "the ideal projector for brilliant full color or black and white 2 by 2 inch slide projection."—*Ampro Corporation, 2835 North Western Avenue, Chicago 18, Ill.*

Kitchen Utility — CUB 177

Saves Time, Labor in Cleaning Utensils

An easy, fast, sanitary, thorough method of cleaning and sterilizing heavy kitchen utensils, garbage and waste cans and similar items of equipment is provided through use of the AerVoid Rinser, Sterilizer and Pre-Heater. Designed especially to clean, rinse, sterilize and preheat AerVoid Food and Liquid Carriers, it is said to be equally effective for any cans or containers with a diameter up to 21½ inches.

Most of the manual labor of cleaning large utensils is eliminated by this kitchen utility which quickly repays its small cost over and over again in time and labor saved. The AerVoid cleanser and sterilizer feeds steam and water (cold or hot) by pressure of a pedal, reaching and cleaning all parts of large kitchen utensils. Stepping on one pedal releases water; stepping on the other pedal releases steam; stepping on both pedals releases steam and water through the mixing chamber and flushes all the interior parts with hot water. Steam pressure required is 20 pounds or more.—*Vacuum Can Company, 25 South Hoyne Avenue, Chicago 12, Ill.*

Clean Hands — CUB 178

for Food Handlers Discussed in Leaflet

The use of Wyandotte "Steri-Chlor" as a germicidal hand rinse for workers handling food is described in a new leaflet, "Clean Hands," prepared by the manufacturer of the product. The leaflet is complete with photographs of microscopic slides showing workers' hands before and after using Wyandotte "Steri-Chlor" as a final germicidal hand rinse. Copies can be obtained by writing.—*Wyandotte Chemicals Corporation, Wyandotte, Mich.*

Kitchen Design, Equipment — CUB 179

Described in Illustrated Brochure

A helpful discussion of kitchen design and equipment together with layouts constituting a representative cross section of types is presented in a brochure, "Blodgett Baking and Roasting Ovens and the School Feeding Program." This brochure was prepared by the G. S. Blodgett Company whose ovens actually were designed by food directors.

As a result, the Blodgett Baking and Roasting Ovens are said to meet the requirements of food directors who wanted efficient, space-saving equipment so easily operated that there would be no need for long detailed instruction every time an employe changed; who wanted easily read thermostat dials and accurate control coupled with large capacity; who wanted to reduce the fatigue that comes from

bending, stooping and lifting required by old style, conventional equipment: who wanted to "dress up" dishes, such as individual casseroles, and to produce in quantity without loss of quality.

Among the representative layouts are one for a college kitchen which feeds 800 students and one for a college which serves 6000 daily meals.—*The G. S. Blodgett Company, Inc., 50 Lakeside Avenue, Burlington, Vt.*

Flooring Bulletin — CUB 180

Lists Features Desirable for Heavy Duty

Nine features said to be desirable in heavy duty industrial floors and nine benefits in trucking performance directly derived from these features are emphasized in a new bulletin released by Walter Maguire Company. Test data are cited to demonstrate how these benefits are realized through the use of 100 per cent emery aggregate which, after it is selected, crushed, graded according to size and shipped in bags, can be turned into the dense, cohesive, nearly diamond-hard surface known as Emeri-Crete Flooring simply by adding cement and water. Specific installation data for each particular field and copies of the new bulletin, No. 602, can be procured from the manufacturer.—*Walter Maguire Company, Inc., 330 West Forty-Second Street, New York 18, N. Y.*

Slidefilms to Slides — CUB 181

Takes Only Two Seconds on New Projector

Reputed to be the first projector with a reverse slidefilm mechanism that will not damage film, the Model DP 300, a new 2 by 2 inch slide and slidefilm projector, is announced by the Three Dimension Company.

With this unit, changing from slidefilms to slides requires only two seconds; realigning the condensers is no longer necessary and there is no loss of light; pressure plates have been eliminated. Slides are automatically centered regardless of variations in thickness. Tilting up and down is said to be controlled smoothly by a gear-driven hand knob, and focusing is controlled to micrometer exactness by the new Micro-Focus Lens Knob which eliminates uneven hand adjustment of the lens. The new type of condenser system employed is easily removed as a single unit for cleaning.

Noticeably greater screen illumination from the 300 watt lamp than from other projectors of the same rated capacity is claimed by the manufacturer.—*The Three Dimension Company, 500 North Dearborn Street, Chicago 10, Ill.*

Robot-Eye Control — CUB 182

Effects Reduction in Fuel Consumption

How a 15 to 20 per cent reduction in fuel oil consumption may be realized through improved combustion efficiency and boiler heat exchange is described in a comprehensive bulletin telling the values of Robot-Eye Combustion Control. The entire saving is made from chimney waste and no part is a result of reducing the heat or service.

In concise detail and with graphic illustrations, the principle of haze control is presented: A photo-electric eye determines the amount of haze present and relays the measurement to a haze meter; it is recorded on the Robot-Eye control panel.

A synchronous motor operates a device every eight seconds to test the haze value. If the test indicates a condition varying from the desired value, a reversible compensating motor immediately activates an operation which energizes the damper motor to correct the air flow and reestablish the haze value desired.

Other advantages of Robot-Eye Combustion Control listed in the bulletin will also be of interest to buildings and grounds superintendents or to those responsible for plant operation. Copies can be obtained upon request. —*General Power Plant Corporation, 381 Fourth Avenue, New York 16, N. Y.*

Dishwashing Compounds — CUB 183

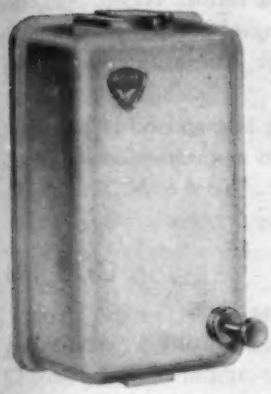
Developed for Specific Problems

The Turco Fax Group, a complete group of dishwashing compounds rather than a single "cure-all" cleaning agent, has been introduced by Turco Products. This group of compounds, according to the manufacturer, was introduced after extensive laboratory studies of varying factors that can influence the choice of a dishwashing compound.

These factors include such differentials as type and condition of the dishwashing machine, the kind and amount of mineral content in the water, the type and degree of contamination and the ability and experience of the machine operator. That no one dishwashing compound could effectively solve each problem was the conclusion reached after these studies were completed. The result is the Turco Fax Group which consists of five distinct compounds: Alfax, Blu-Fax, Aqua-Fax, Brite-Fax and Krom-Fax. Each is designed to meet specific requirements, is now being produced in quantity and is available immediately.—*Turco Products, Inc., 6135 South Central Avenue, Los Angeles 1, Calif.*

New Dispenser — CUB 184

Operates Efficiently With Any Type of Soap



Chemically engineered to ensure against corrosion with any type of soap, the new Bobrick powdered soap dispenser offers efficiency and economy in this field of equipment. The unit is made of heavy gauge steel with a white baked enamel finish, has a 1 quart capacity and delivers a measured quantity of any type of powdered or small flake soap at each press of the plunger. An agitator spring prevents caking and assures even delivery.—*Bobrick Manufacturing Corporation, 1839 Blake Avenue, Los Angeles 26, Calif.*

Electro-Mechanical Organ — CUB 185

Suitable for Chapel or Auditorium

A newly designed and improved Master Touch organ, especially suitable for chapel or auditorium use, is now in production. Electro-mechanical in operation, the organ is said to offer the range and variations generally accredited to a pipe organ only. In one compact unit, it presents an instrument which sells in a price range within the means of the smallest school.

The Master Touch organ offers six octaves, in comparison with the five octave range ordinarily present in single manual instruments, and the keyboard is controlled and played exactly as organists have been trained to play in the past. The instrument is independent of reeds and of syntheses of tone, yet produces the full-bodied full organ said to be found otherwise only in large multiple ranks of pipes. Tonally, the organ is multi-manual in effect.

The Master Touch single manual organ is approximately 39 inches high, 52 inches long and 25 inches deep and is made of oak, walnut or other woods. Regular single manual models are in production at present, and the two manual model, now in the design stage, will be ready for production early in 1947. Both types will be custom built to match special woodwork or decorating motifs as soon as materials are available.—*Mastersonics, Inc., Minneapolis, Minn.*

"Rolling Cafeteria" — CUB 186

Is Provided by Food Service Cart

Mealpack Mobile Canteen, Model 83, a new canteen food service cart offers economical "rolling cafeteria" service to students, faculty and staff members and nonacademic employes where and when it is wanted. Too, it is a new outlet for underspaced, overcrowded soda fountains and food bars. When fiully provisioned, each canteen serves 250 to 300 people.

This cart provides for compact storage and quick dispensing of individual hot or chilled meals from prepacked individual Mealpack Containers. Handling racks are loaded with filled containers at any kitchen or centrally located commissary and trundled easily on the Mealpack dolly to the waiting mobile canteen. Lifting is eliminated; built-in roller tracks on canteen and dolly permit transfer of handling racks with a light shove. Locking lugs with toe-tip release secure the load while in transit on the dolly and a simple hand released lug locks the handling racks in position while they are being rolled in the mobile canteen to the consumer.

"Floating Hub" spring suspension, with rubber tired casters turning on lubricated roller and needle bearings, makes operation of all Mealpack mobile equipment quiet and easy. Strong, light weight, aircraft type of construction provides compactness for practical operation in crowded quarters.—*Mealpack Corporation of America, 152 West Forty-Second Street, New York, N. Y.*

Booklet Answers — CUB 187

Questions on Fighting Fires

"How to Fight Fires and Protect Property" is the title of a new 20 page booklet which graphically explains and illustrates the latest technics in fighting fires with carbon dioxide and other types of fire extinguishers. This handy folder tells what types of fire hazards should be recognized, how to mobilize for fire defense, what is the correct spacing and bracketing height for various types of fire extinguishers and what are the approved methods of operation. Copies can be obtained free by requesting catalog R-5827 "Fire Protection Handbook."—*Randolph Laboratories, Inc., 8 East Kinzie Street, Chicago 11, Ill.*

Deep Fat Fryer — CUB 188

Offers Speed, Economy, Better Tasting Foods

More attractive, better tasting foods is the ultimate goal in the institutional kitchens whether they are located in the school cafeterias, the dining halls or the union building. To aid in the achievement of a goal of superiority in fried foods, the new Hilco Circulating Fryer has been developed by the Hilljard Corporation of Elmira, N. Y.

The result of several years of laboratory research and study devoted to the subject of fat breakdown, this fryer is said to operate on a principle totally different from that of any other fryer on the market. The Hilco has such a fast heat recovery that many users have discontinued the practice of blanching or half cooking as a preliminary step in French

frying. Starting cold, potatoes are reported to finish frying in barely five minutes. This speed is possible because of the method of heating the fat, which is pumped through a coil directly over an intense gas flame at a rate of more than 2 gallons a minute. This operation is so fast that the fat does not have a chance to burn. Owing to this patented circulating system, the kettle, holding only 15 or 18 pounds of fat, is said to cook the same amount of food as other fryers requiring 50 pounds of fat for the same amount of food.

Another exclusive feature is the patented crumb tray which is so easily removed that the cleaning job can be accomplished in thirty seconds without even turning off the fire. The fryer is equipped with either one large basket or twin baskets.—*A. H. McCreery Sales Company, 55 West Forty-Second Street, New York 18, N. Y.*

Booklet on Projectors — CUB 189

Aid to Prospective Users

College and university representatives in the market for projectors will want to see Bell and Howell's new booklet, "For Motion Pictures of Perfection." Thirty-seven specific features characterizing this company's equipment are pictured with red check-marks providing instantaneous coordination between pictures and copy. With emphasis on consumer advantages of the Filmosound, mechanical details are subordinated, being mentioned only in supporting those advantages.

Whether the prospective user is interested in economy sized 8 mm. motion picture film, 16 mm. silent or sound or 2 by 2 inch slides, there is a Filmo designed for the purpose. Various models are pictured at the close of the 16 page booklet, copies of which can be obtained by writing the manufacturer.—*Bell and Howell Company, 7100 McCormick Road, Chicago 45, Ill.*

Food Service Problems — CUB 190

Discussed in Timely Article

College dietitians and food service managers, faced with the challenge of maintaining health and sanitation standards in spite of an increased strain on feeding facilities, will find help for their problem in an article, "How to Get Better Dishwashing," appearing in the July-August issue of the *Oakite News Service.*

Surveying the many problems involved in the steady output of sparkling clean, film free dishes and glassware, the article emphasizes the importance of proper maintenance of dishwashing machines. Procedures for chemical descaling of automatic dishwashing equipment are detailed, and careful selection of dishwashing compounds, study of available water supply, proper temperatures of rinse and wash waters are described as significant factors. In addition, the need for more widespread training of kitchen personnel in maintenance and use of automatic dishwashing equipment is stressed.

Copies of the issue containing this and other pertinent articles can be obtained free on request.—*Oakite Products, Inc., 28D Thames Street, New York 6, N. Y.*

Portable Sound System — CUB 191

Features 3 Case Unit

A new portable sound system, featuring a 3 case unit, including a top quality 30 watt amplifier with two 12 inch, wide range high efficiency loud-speakers, is announced by Newcomb Audio Products. The new system is one of a series of portable units built around the standard and de luxe Newcomb amplifiers, ranging from 10 to 60 watts power output.

The cases are built of plywood, finished in airplane type fabricoid, and each speaker is supplied with 50 feet of detachable cable. Space is provided in the amplifier case for stand, microphones and accessories.

As with all Newcomb amplifiers, the portable units are equipped with sockets into which may be plugged the Newcomb plug-in input transformer, for instant conversion from high to low impedance.—*Newcomb Audio Products Company, 2815 South Hill Street, Los Angeles 7, Calif.*

New Door Control — CUB 192

Requires No Periodic Oiling or Servicing

A new type of door control operating on a simple mechanical principle which is said to require no periodic oiling or servicing is now available. The unit is compact and the principal working parts are self contained and sealed. A mechanical adjustment is provided to increase or lessen the tension as required.

The action of the control is such that the door is made to close relatively fast up to a point 1 inch short of being fully closed. Then it is automatically slowed and quietly eased into its closed position. This new type of control, according to the manufacturer, eliminates the necessity for additional hardware on doors not requiring locks or which ordinarily require hardware merely for closing security. The positive closing action as well as other factors make this saving possible, it is stated.

Heat, cold or moisture are reported to have no effect on operating efficiency. Entirely constructed of steel and cadmium plated, this new type of control is now being manufactured in two sizes: standard and heavy duty, weighing 1¼ and 2½ pounds, respectively.—*B. L. Mallory Company, 1201 East Eight Mile Road, Hazel Park, Mich.*

Movie Processing Machine — CUB 193

Automatically Processes, Dries Film

A new robot type of movie processing machine that automatically processes and dries film is getting its peacetime introduction at the University of Southern California. There it is being used extensively at U.S.C.'s widely known department of cinematography under the direction of Harris Moore. The machine has attracted considerable interest among western colleges and universities which see untold possibilities for its use in sports, visual education and cinematography departments. It is expected to be especially helpful to isolated universities which must send film a long distance to be developed.

The machine is portable and may be used one day in the cinematography department and the next in the athletic department. The entire 16 mm. developing process can be done in as short a time as ten minutes. For example, pictures can be taken of the first half of a football game and shown to the squad at half time as was done in a recent demonstration for U.S.C.'s football mentor, Jeff Cravath.

The machine has many uses sports-wise other than in actual contest. Whether in football, track, swimming, boxing or any other sport requiring specialized form or individual instruction, coaches will be able to show their protégés mistakes on the screen within minutes after they are committed.—*Houston Corporation, Los Angeles, Calif.*

Surfacing Materials — CUB 194

For Table, Counter Tops Described

A new color folder showing 18 patterns of decorative surfacing materials of G-E Textolite for table and counter tops has been issued by the Plastics Division of the General Electric Company. The advantages, recommended uses, properties, grades and sizes of the materials are presented also in the illustrated folder.—*Plastics Division, Chemical Department, General Electric Company, Pittsfield, Mass.*

Aluminum Chairs — CUB 195

Offer Eye Appeal, Maintenance-Free Service

The General Fireproofing Company's new catalog, "Goodform Aluminum Chairs," will prove helpful to the institution's purchasing agent in making selections for current needs or for future reference when seating problems arise. The eye appeal resulting from the sparkling finish of natural aluminum contrasted with colorful plastic coated fabrics, leather or cloth is not the only pleasing characteristic of this product, according to the catalog.

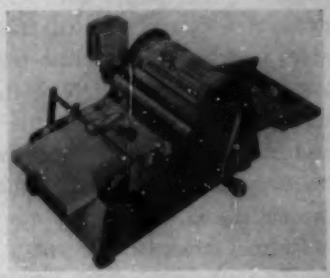
Made of metal with welded joints, Goodform Aluminum Chairs will not split, splinter, warp or pull apart and are basically designed to be comfortable. There will be no cracks or rough edges to tear hosiery or clothing or loose joints to cause squeaking and creaking from bodily movement. Rubber cushioned glides permit motion of the chair on hard floor surfaces with a minimum of sound.

Light in weight, the chairs can be moved in quantities and rearranged quickly and efficiently. Individual chairs, too, can be handled with little effort. The structural frame, made of an aluminum alloy formed and welded in a soft state and then heat-treated in an electric oven giving the metal practically the strength of steel, should last a lifetime without maintenance, according to the catalog.

In addition to various models of chairs, pictures of which appear in the catalog, the company builds to order any type of custom seating.—*The General Fireproofing Company, Youngstown 1, Ohio.*

Duplicating Machine — CUB 196

Represents Triumph Over Material Shortage



Shortages of iron and steel have proved no handicap to the manufacturer of the Copy-Rite Liquid Duplicator. On the contrary, the company asserts that the use of aluminum has resulted in a finer machine than could be built with the old elements. Just as strong as its predecessor, the new machine is 20 pounds lighter in weight and easier to handle, making a big reduction in shipping costs.

Aluminum is used for the drum and side castings instead of steel; aluminum is being used, too, in some of the rollers and is said to be proving as efficient as rubber. Simplification is offered as another advantage through the elimination of nine parts from the automatic paper feed.

Other features include instant starting, no wicks or pumps, visible fluid supply, faster operation, flexibility and freedom from service needs. A point of particular interest to purchasing agents trying to fill requisitions is the company's assurance of prompt deliveries.—*Wolber Duplicator and Supply Company, 1201 Cortland Street, Chicago 14, Ill.*

New Shampoo — CUB 197

Lengthens Life of Paint Brushes

Knowing the procurement difficulties confronting the brush industry, Devoe has developed a new product that contributes to greater "yardage" performance of paint brushes. DeVoe Brush Shampoo really fills a twofold need, for paint shortages are equally acute and a clean brush is an excellent form of painting insurance.

The new product is equally efficient for cleaning hardened paint, lacquer, varnish, shellac or enamel. According to the manufacturer, it is powerful, cleaning right down to the heel of the brush; it is safe, being noninjurious to painters' hands, to hog bristle or nylon or to setting compound. Being a concentrate, speedy results are assured and economies can be effected by reducing the shampoo with equal parts of water. It is easy to use and has a pleasant odor.

A unique feature is that brushes cleaned with Devoe Brush Shampoo can be rinsed under the faucet without staining the sink or wash basin.—*Devoe and Raynolds Company, Inc., Forty-Fourth Street and First Avenue, New York 17, N. Y.*

Color Mixture Theory — CUB 198

Demonstrated by New Classroom Instrument

A colorscope for classroom demonstration of color mixture theory is announced by General Electric. Designed to show how primary colors of light can be mixed together in various amounts to produce a certain desired color, the new instrument enables a lecturer to present from his lecture table a clear and vivid demonstration of the additive method of color mixture. With this unit, the primary colors—red, green and blue—used in the additive method can be combined to show all the shades of the visible light spectrum to the audience.

Lamps, mounted back of a viewing screen and in the front of the instrument, can be individually controlled in intensity by switches which operate like the volume control on a radio. The viewing screen is divided into three sections: Two small sections on each side are illuminated with artificially produced daylight to provide a standard comparison color and the center and larger section is lighted by the mixture of light coming from the three primary colored lamps.

The colorscope weighs about 10 pounds and operates from any 110 volt outlet, A.C. or D.C. Additional information is provided in GEA-4672.—*Apparatus Department, General Electric Company, Schenectady, N. Y.*

Bulletin Presents Data — CUB 199

On Water Supply, Booster Systems

"Yeomans Water Supply and Booster Systems," Bulletin 1500, provides engineering data and specifications that will be helpful to those responsible for plant operation. Included in the booklet are typical installation blue prints and drawings, descriptions of pneumatic and gravity types of systems, together with typical specifications. How Yeomans systems meet the needs of these various specifications is told in both copy and illustration.—*Yeomans Brothers Company, 1433 North Dayton Street, Chicago 22, Ill.*

Degreasing Job — CUB 200

In Kitchens Accomplished by Chemical Action

Grease on stoves, broilers, pots and pans, on kitchen equipment, even on walls, racks and other areas has long been a problem to those responsible for good housekeeping in college kitchens. Thanks to modern chemistry, a product is now available which makes it possible to remove the grease accumulation without scouring and scrubbing and without damage to valuable equipment. Called I. C. Degreaser, this new product is a liquid free of abrasives and it does the degreasing job by chemical action.

I. C. Degreaser is especially recommended for use on glazed surfaces, such as enamel, porcelain, glass and baked-on metal finishes. For cleaning ovens, broilers, stoves, canopies over stoves and barbecue grills, it is applied full strength, left to stand for ten minutes, then rinsed off; for pots, pans and dishes, it is used in water. Tested in the kitchens of several large restaurant chains, it is reported to save both time and labor in comparison with previous detergents. Used as a dish washing detergent, this degreaser removes even lipstick stains in the regular dish-washing operation without special treatment of the stained pieces.

I. C. Degreaser can be purchased in gallons—four to a case—from jobbers, or in drums of 55 gallon capacity at a substantial saving direct from the manufacturer.—*Interchemical Corporation, Trade Sales Division, Fair Lawn, N. J.*

Insulated Serving Tray — CUB 201

Serves Hot, Cold Portions; Simplifies Maintenance

The fact that the Mack Molding Company's new plastic serving tray will reduce the clatter in college cafeterias is only one of the advantages this product has to offer. A complete meal, with both hot and cold portions, can be served from the tray, for it has six individual food wells, each separated and insulated to retain the proper relative temperatures for every dish in the meal.

The tray is shock resistant, mar proof and, according to the manufacturer, cannot warp. It will stand abuse in use or in washing, and sharp cutlery, abrasive cleansers and hot or cold water are said to have no damaging effects. As a result, breakage and replacement costs are reduced. Smooth, tile-like surface and rounded edges discourage dirt and simplify washing, thus cutting down clean up time.

Students will be pleased, because the tray will not stain or retain food odors—butter, pickles, onions or pineapple can be served without causing taint or discoloration. Too, they will like its light weight and its molded in sure-grip finger holds. It is a rich, natural tan in color.—*Mack Molding Company, Main Street, Wayne, N. J.*

Steam Cooking Process, — CUB 202

Equipment Described in Booklet

"Steam-Chef," a catalog describing the advantages of steam cooking for vegetables in addition to many meat cuts, fowl, fish, fruits, cereals, eggs, sea foods, puddings and desserts and descriptions of Steam-Chef equipment, has been prepared by the Cleveland Range Company. Dimensional data are graphically presented in charts and attention is given to considerations that should be fol-

lowed in making selections for any particular installation. In addition, announcement is made of the availability of the company's 48 page booklet, "For Better Steaming," which describes the steaming process and contains information of value to those concerned with the processing of food by any method.—*The Cleveland Range Company, 3333 Lakeside Avenue, Cleveland 14, Ohio.*

Catalog Describes Microphones — CUB 203

For Various Campus Assignments

No one microphone will do every job on the campus best . . . usually there is one specific type for each application or there are several that will do a number of jobs well. That is the opinion of Electro-Voice engineers as set forth in the company's new catalog. In addition to describing the various types available, together with specifications and illustrations, a handy chart is provided for easy reference in locating the applicable microphone in the catalog. Descriptions of microphone stands and accessories are included.—*Electro-Voice, Incorporated, South Bend 24, Ind.*

Bulletin Lists — CUB 204

Measurements, Data on Standardized Boilers

"Big plant" steam generator performance is being offered in a standardized boiler for the first time in the Springfield Type M series, according to the manufacturer. A new bulletin, which includes a table of measurements and data to aid in selection as well as instructions on how to order, is now available and can be obtained upon request. With the bulletin, it is no longer necessary to wait for facts and figures on dimensions. Bulletin No. 746 should be requested.—*Springfield Boiler Company, 1900 East Capitol Avenue, Springfield, Ill.*

Balanced Door Unit — CUB 205

Is Detailed in Booklet Now Available

A new 12 page booklet on Ellison Balanced Doors, containing illustrations, detail drawings, specifications and list of installations, has just been published by the manufacturer. This new and modern type of entrance door, pivoted at the top and bottom, permits easy opening and quick closing in any wind and weather condition, thus facilitating traffic. Because it is said to project beyond the frame line 40 to 45 per cent less than an ordinary hinged or pivoted door, this unit saves lobby space, eliminates sidewalk obstruction and permits closer arrangement of adjoining steps or stairs.

The catalog comprises full information on this new unit and provides names and addresses of authorized representatives in all principal cities. Requests for this booklet and for information will be filled promptly, according to the manufacturer.—*Ellison Bronze Company, Inc., Jamestown, N. Y.*

"All-Purpose" Ladder — CUB 206

Aids in Maintenance of Fluorescent Fixtures

To maintain high lighting levels of small fluorescent installations in classrooms, offices and various other units, a systematic plan of care is recommended. To help maintenance departments provide a program that will ensure continuous peak performance with minimum diminution of light output, engineers of Sylvania Electric Products have developed an "all-purpose" maintenance ladder which is said to be easy and inexpensive to build. By the addition of sheet metal or wood racks to any ladder, spaces are provided for burned out lamps, new lamps, starters, cleaning cloths and two buckets, one for the cleaning solution and the other for rinse water.

In one installation studied by Sylvania Electric, accumulated dirt and dust on lamps and reflectors caused a 27 per cent light loss. The frequency of cleaning is dependent on locality and dirt in the atmosphere but a general rule says that when fixtures are providing one quarter to one third less light than the designed output, it is time for a soap and water application.

The type of reflecting surface determines the choice of cleaning agent. Only slightly dirty reflectors can be rubbed with a damp cloth, but hardened dirt on a porcelain enamel surface requires an efficient and concentrated "soapless" soap to do a thorough job of removal. A green soap solution, briskly applied, is required, however, for care of synthetic enamel surfaces.

For aluminum reflectors, the solution must be as neutral as possible since even mild alkalinity or acidity will destroy the reflectivity of the metal finish, it is pointed out. A green soap solution or one of the special wax or wax emulsion cleaners which have been specifically developed for cleaning aluminum is, therefore, recommended. Glass surfaces of lamps and diffusers are said to be cleaned best with trisodium phosphate, and no rinsing is necessary.—*Sylvania Electric Products, Inc., Salem, Mass.*

Proper Air Circulation — CUB 207

For Refrigerators Discussed in Booklet

"New Life and Efficiency for Refrigerated Areas," an 8 page booklet prepared by Reynolds Electric Company, contains a wealth of information about proper air circulation for refrigerators as supplied by the RECO Refrigerator Fan. Supplementing the data are flow charts and installation diagrams. To obtain a free copy of the booklet, Bulletin No. 241 should be requested.—*Reynolds Electric Company, 2650 West Congress Street, Chicago 12, Ill.*

desks

STYLED BY SIMMONS

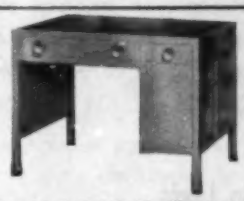
for burning "Midnight Oil"!

We've made a study of desks. Big ones, little ones . . . all kinds. And one thing is sure! A desk in a dorm is a mighty important piece of furniture. That's one reason why we suggest you see the Simmons line of bright, colorful all-metal desks before you select your new equipment.

You see, Simmons is famous not only for quality in materials and workmanship, but we know how to design the handsome, durable furniture students really want . . . at prices you want to pay. It's pretty hard to beat this combination! Why not get the full story now from your Simmons dealer . . . or write direct to any Simmons office.

Desk F-142-6: *Height 31½ in.; Top 34½ x 19 in. Modern table type with square tubular legs and large drawer pulls.*

Desk F-142-10: *Student's single Model. Height 31½ in.; Top 34½ x 21 in. Large pulls, open book shelf at right end.*



Double Desk F-142-12: *For two students. Has two open book shelves at end, two drawers on each side. Height 31½ in.; Top 42 x 32 in.*

Kneehole Desk F-142-9 (*Shown in room scene above*). *Has open book shelves at each end, 3 drawers with large pulls. Height: 31½ in.; Top 44½ x 21 in.*

SIMMONS COMPANY

DORMITORY DIVISION

Display Rooms

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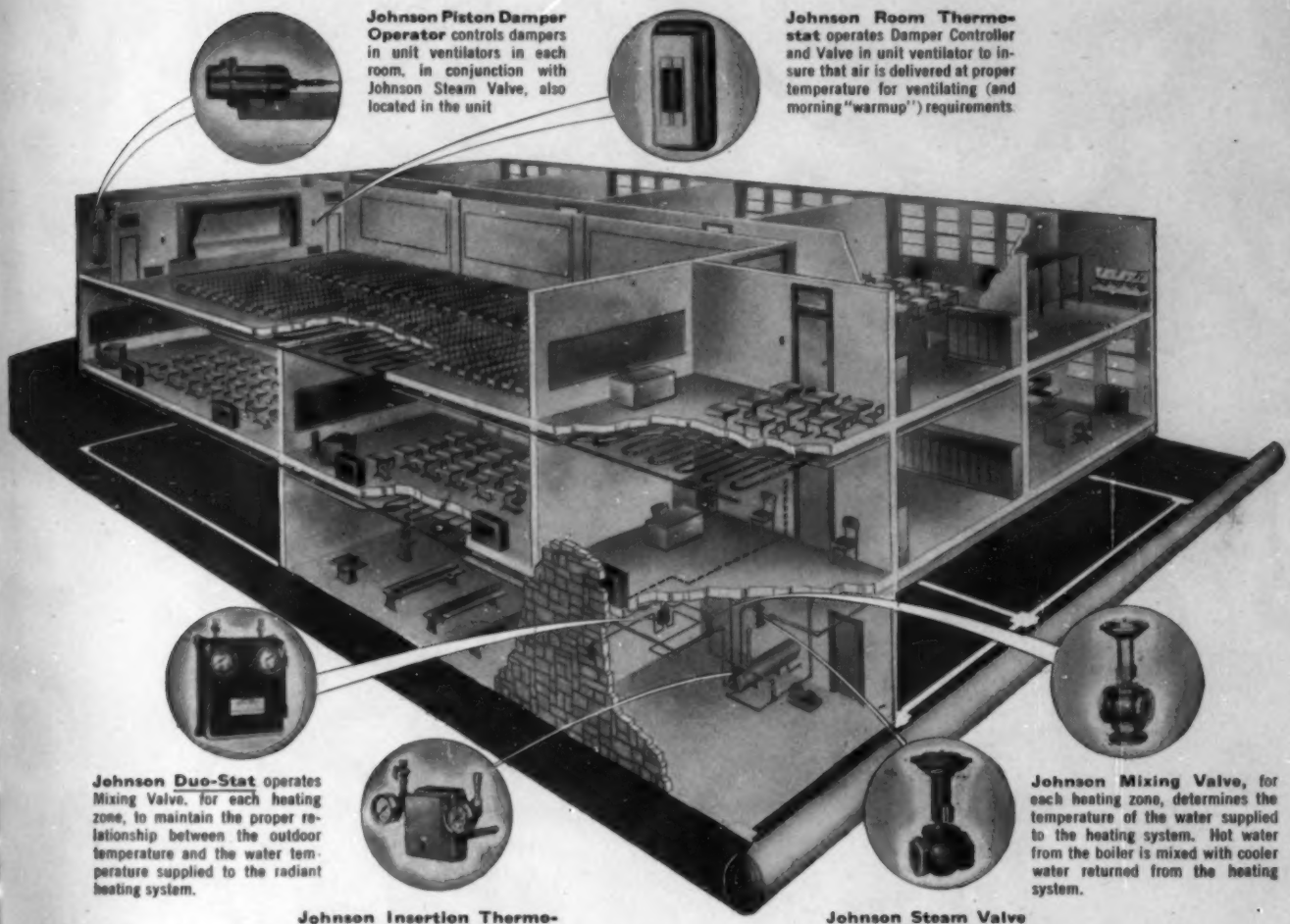
HOW TO CONTROL *Radiant Heating* WITH VENTILATION ADDED



Johnson Piston Damper Operator controls dampers in unit ventilators in each room, in conjunction with Johnson Steam Valve, also located in the unit

Johnson Room Thermostat operates Damper Controller and Valve in unit ventilator to insure that air is delivered at proper temperature for ventilating (and morning "warmup") requirements.

Johnson Duo-Stat operates Mixing Valve, for each heating zone, to maintain the proper relationship between the outdoor temperature and the water temperature supplied to the radiant heating system.

Johnson Insertion Thermostat, in hot water converter, operates a Steam Valve so that hot water at a given temperature always is available for the radiant heating system.

Johnson Steam Valve controls the flow of steam required to heat hot water for the radiant coils in the ceiling (floor or walls) of each room.

Johnson Mixing Valve, for each heating zone, determines the temperature of the water supplied to the heating system. Hot water from the boiler is mixed with cooler water returned from the heating system.

A MODERN ADAPTATION OF JOHNSON AUTOMATIC TEMPERATURE CONTROL

The illustration shows a typical Johnson radiant heating and unit ventilating installation in a college classroom building. Other arrangements of Johnson Radiant Heating Control are available for dormitories, hospitals, small and large residences, apartment buildings, hotels, industrial plants, commercial buildings and almost every other conceivable type of structure . . . another evidence of Johnson's facility for keeping abreast of developments in heating science.

The essential of Johnson Radiant Heating Control is the *Duo-Stat*, which controls the temperature of the water supplied to the radiant heating coils according to the outdoor temperature. This is fundamentally correct. It insures that a change in heat input to the radiant surfaces will occur immediately upon a change in weather conditions. With other methods of control, a change in space temperature must take place before the required change can be made in the temperature of the water supplied to the radiant heating coils. JOHNSON SERVICE COMPANY, Milwaukee 2, Wisconsin. Direct Branch Offices in Principal Cities.

SEND FOR 20-PAGE BOOKLET, "HOW TO CONTROL *RADIANT HEATING*," illustrated by diagrams of typical installations

JOHNSON *Automatic Temperature and Air Conditioning* **CONTROL**

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